

American Aviation



25c

The News Magazine of Air Transportation

Sept. 15, 1947

More Trends Abroad

LONDON, Sept. 4—Here are some additional observations on European aviation as a result of a two months air tour on eight European and one American air carriers and talks with many aviation, political and economic leaders of seven countries:

1. **Traffic Control.** There can be no large volume of air transportation in Europe, with the desired safety factor, until all countries institute a unified system of traffic and airways control. The situation this coming winter will be serious. Europe is fifteen years behind the United States in

regulating air traffic and those aviation men of Europe who recognize the problem as a result of observation of U. S. volume traffic (and unfortunately there are all too few of these) are deeply concerned.

European aviation has its head in the sand with regard to traffic control. There is no airway system, communications are bad, and little realistic recognition of the problem. A series of accidents in the air in Europe, which is probable unless order is brought out of the present chaos, will set back aviation on the Continent some years. The most that prevails now is traffic control at major airports, but no account is taken of through traffic passing over those same airports. Mid-air collisions have not yet occurred but the number of near-accidents reported by airline men is enough to cause the heebie-jeebies. Paris is particularly chaotic. European aviation is still going on the thesis that there is plenty of room in the air, but this is a worn-out and invalid thesis that will have its tragic results in due course unless Europe's aviation leaders begin to provide the regulation needed for the greater amount of flying now being done within Europe than existed at any time before the war.

It is unfortunate that the British, who should be the leaders in progressive development of aviation in Europe, are seemingly blind to the need for traffic control. They are still working on the local airport traffic control pattern without recognition of through traffic or reporting of positions of all traffic in the air. During the war the Royal Air Force maintained a good system of traffic reporting, but Britain has retrogressed since the war when the men with a pre-war concept of air traffic got back into power.

(Turn to page 8)



Moves Up With Western

Arthur F. Kelly, veteran of 13 years in western aviation, has been appointed assistant to the president of Western Air Lines. Formerly WAL's general traffic manager, he moves into his new position to assist in administration of the airline's established policy to become a regional carrier. He was with United Air Lines before joining WAL in 1936.

In This Issue

**NWA Readies Martin 2-0-2
For Early Service 13**

**Policy-Making Precedent Set
In WAL Route Sale**

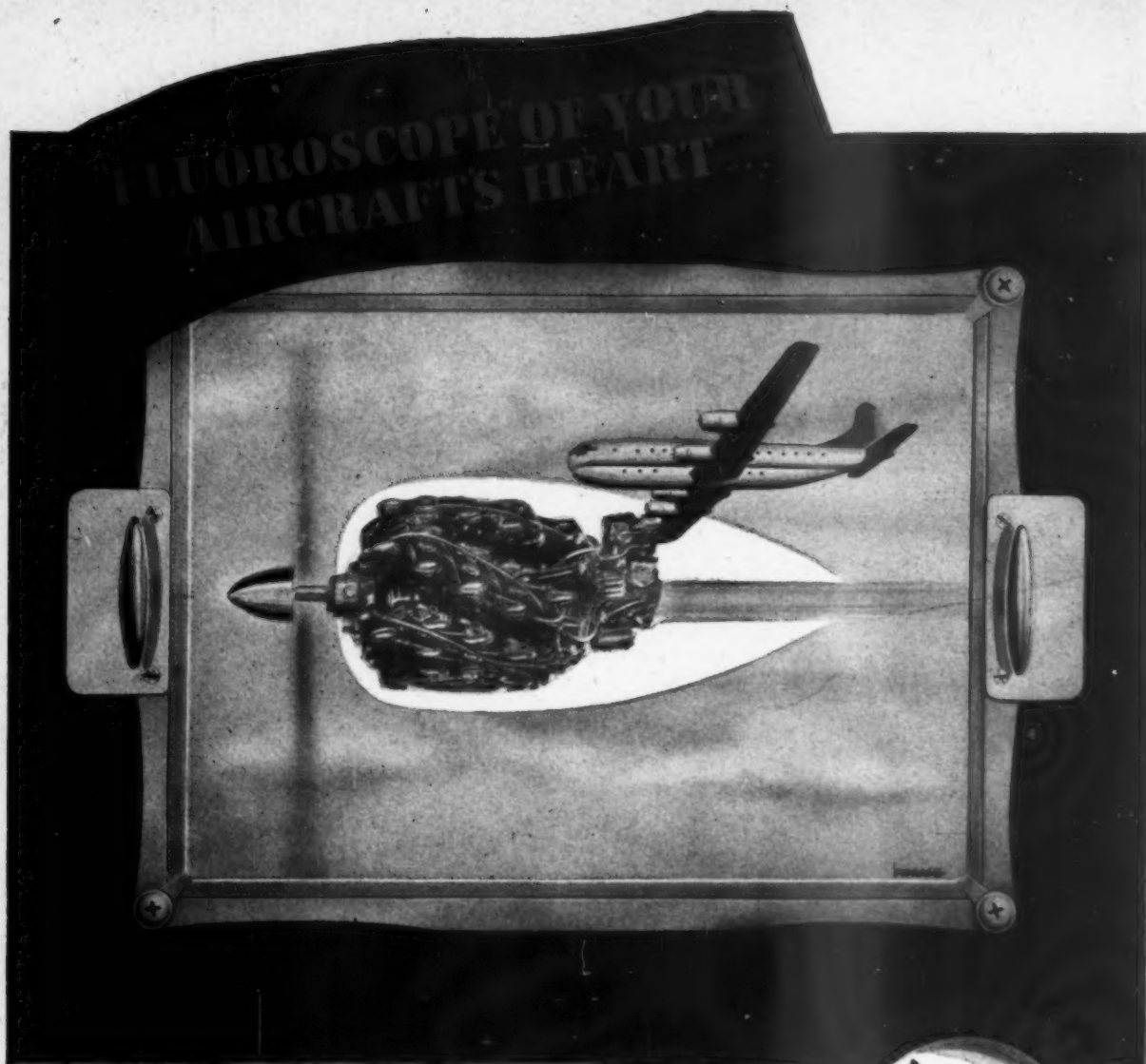
MANAGEMENT

SALES

OPERATIONS

REFERENCE COPY

FLUOROSCOPE OF YOUR AIRCRAFT'S HEART



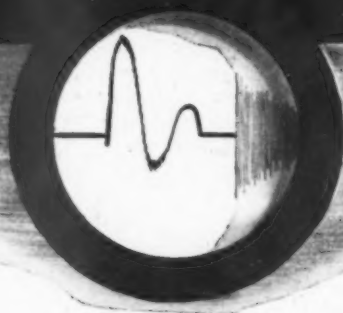
PROVIDED BY NEW SPERRY ENGINE ANALYZER

■ The new Sperry Engine Analyzer will enable your flight engineer to keep his *eye on the pulse* of his engines — promptly visualize the slightest irregularity in engine function. In the analyzer indicator the flight engineer can examine at any time during flight, patterns that show the characteristics of engine vibration, ignition system performance, and synchronization between magnetos and between engines. These characteristic patterns *detect, locate and identify* the malfunctions and impending failures that may occur during flight operation.

■ When the airplane comes into an

airport, specific engine maintenance needs are already known. Small mechanical corrections can then be made in minutes instead of the hours formerly required to locate the cause of malfunction. This results in an increased number of possible flying hours per day and greater reliability in meeting schedules.

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The Birdmen's Perch

By *Major Al Williams, ALIAS, "TATTERED WING TIPS,"*
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.



Here are some bits of news we picked up in the last month.

Of course they're about our favorite subject—flying—and our favorite people—them as does it!

They put a *solid brass* model of a new jet job into a transonic wind tunnel and wound the wind up to 850 mph. The trailing edge of this *solid brass* model melted away like butter! (Make a note to keep your putt putt down to placarded speed.)

Another thing we note with great relief is that thunderstorms are not as bad as most pilots have thought. The Army's been digging out the secrets of these storms with specially equipped P-61's.

The big night-fighters flew through thunderstorm after thunderstorm, collecting data, and the weather pilots swear that they're nothing to be afraid of if you've got *blind-flying instruments* and are *skillful in their use*.

And here's one last bit:

The huge PB2Y which used to be used by the Fleet Admiral who promised to ride the Emperor's white horse through Tokyo is now carrying fresh fish from Alaska to U. S. points. Refrigeration is achieved by flying at 18,000 feet!

WHILE WE'RE ON FISH . . .

. . . take a fish. Any fish!

Scale him, and what have you got? You've got some fish . . . but you've got a lot of bone, too.

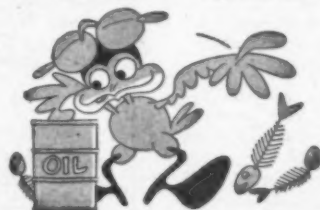
Take out the bone, and what have you got?

Nothing but tasty, nourishing fish!

Now, take an oil. Any oil, as long as it's crude. Refine it, and what you got?

You've got a lubricant . . . but . . .

In effect, you've taken the "scales" off the crude and made a lubricant out of it. And there are still hydrocarbons left in that lubricant that don't lubricate . . . hydrocarbons that make sludge and carbon.



You might call them the "bones" of a crude.

That's precisely why Gulf's Alchlor Process is so important to you. For this *extra* refining step gets *extra* sludge-carbon troublemakers out of Gulfpride Oil.

Now what have you got?

You've got Gulfpride Oil, the finest friction-tamer you ever put in an engine!

LITTLE KNOWN FACTS DEPT.

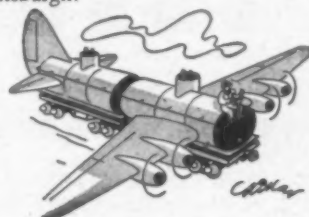
"Many pilots forget in emergencies that they can get the equivalent of an extra inch of forward or back stick pressure

by running their trim tabs *all* the way nose-up or nose-down!"

This Little Known Fact About Well Known Planes won a commission as Perch Pilot (bottom rung) for Charles A. Packard, 1321 Arch St., Philadelphia.

You can get a commission, too, if your Fact is as good as Packard's, and is *accompanied with proof!*

Here's another one, from right here in Pittsburgh:



"It takes 2 railroad tank cars to fuel the B-36—21,116 gal. fuel; 1,200 gal. oil!"

That was from T. W. Janssen, Jr., of 6314 Saint Marie St. His commission as Perch Pilot (br) is on the way.

That's all there is to it, fellahs. You send in your "Fact" on a post card or in a letter, enclose *proof*—!—and if we use it you can join the elegant and exclusive order of Perch Pilots.

And after you've gotten 5 "Facts" in the Perch, you get promoted to Senior Perch Pilot like SPP Charles Miller, of Sacramento!

What are you waiting for?

Address above.

Gulf Oil Corporation and Gulf Refining Company...makers of



GULF AVIATION PRODUCTS



—FORTNIGHTLY REVIEW—

★ ★ ★ ★

The Martin 2-0-2—Glenn L. Martin's bid for a piece of the transport aircraft market—will be placed in service within next fortnight by Northwest Airlines. The airline's personnel are highly enthusiastic over better flight service and improved revenue potential promised by the high-speed, short-haul transport. (Page 13)

Policies of major importance to the future of the airline industry were decided in recent approval given the sale of Western Air Lines' Denver-Los Angeles route to United Air Lines. (Page 15)

Eleven of the world's 15 largest airlines last year, on basis of revenue passenger miles flown, were U. S. companies. American Airlines held top position, while six other U. S. carriers were ranked ahead of BOAC, leading foreign line. (Page 20)

The Civil Aeronautics Administration's proposal to standardize airport runway specifications and make new transports conform to them comes under heavy fire when hearings on the plan open in Washington, Sept. 18. (Page 27)

Sports travel by air, once valued primarily for promotional and publicity purposes, is now becoming a welcome source of revenue for airlines looking for additional income from charter services. (Page 37)

Policy Commission Begins Hearings

The President's Air Policy Commission, chaired by Thomas K. Finletter, began hearings in Washington Sept. 8. Government aviation officials were heard during the first week, to be followed by airline and manufacturer representatives. The commission plans to hold hearings on the West Coast Oct. 5-13. Work of the group is to be mostly completed early in December so the report can go to the President by Jan. 1. The hearings are public, except for sessions involving national security.

1,841 Planes Exported in First Half

U. S. aeronautical exports for first six months amounted to \$81,848,539 and included 1,841 planes valued at \$32,973,000; 2,374 engines valued at \$8,301,880; parts and components for \$40,573,600. The six-month total consisted of 201 military planes, 1,143 new civilian craft and 414 used ones; 4 rotary wing, 69 gliders.

National Air Races Set Records

The National Air Races at Cleveland over Labor Day week-end provided numerous thrills, several crackups, including a fatality, and at least one new closed-course speed record. Winners of the various races were as follows:

Thompson Trophy Race—Reciprocating Division—300 miles, won by Cook Cleland, of Cleveland, flying a Corsair and averaging 396.1 mph; **Thompson Trophy Race—Jet Division**—154 miles, won by Lt. Col. Robert L. Petit, of Ventura, Calif., flying an FP-80 at 500.704 mph; **Bendix Trophy Race**, won by Paul Mantz, of Hollywood, Calif., averaging 460.23 mph in a P-51.

Halle Trophy Race (for women)—75 miles—won by Ruth C. Johnson, of Upland, Calif., flying an AT-6 at an average speed of 223.390 mph; **Sohio Trophy Race for P-38's**—105 miles—won by Tony LeVier, of La-Canada, Calif., averaging 360.866 mph; **Kendall Trophy Race for P-51's**—105 miles—Kendall Everson, with an average of 397.926 mph; **Tinnerman Trophy Race for P-63 King Cobras**—105 miles—H. Ken Knight, of Look-out Mountain, Tenn., with average speed of 352.185 mph; and the **Goodyear Trophy Race** for Continental engines of 188 cu. in. displacement, William Brennand, of Oshkosh, Wis., averaging 165.857 mph.

(Turn to page 6)

AMERICAN AVIATION

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INDEX

Editorial	1	Thirty-Hour Check	20
Fortnightly Review	4	Safety Slants	32
Background and Trends ..	11	Traffic and Sales	37
Aviation Calendar	17	Financial	43
CAB Calendar	19	Index to Advertisers ...	45
Around the World	20	Wings of Yesterday	46
Personnel	22	Product Literature	45
Airline Commentary ...	23	Booklets	46
Operations and Maintenance	27	Books	46

CAA APPROVES MARTIN 2-0-2 FOR AIRLINE SERVICE!

First Deliveries Made to Northwest Airlines in August

MMARTIN 2-0-2 approved by the Civil Aeronautics Administration . . . the recommendation of CAA's Type Certification Board that the CAA Washington Office issue a type certificate to the 2-0-2 means that this advanced new airliner has been given the okay of the U. S. Government . . . that its great speed, comfort and dependability will be available to airline passengers *now!* Delivery of the first of Northwest Airlines' fleet of Martin 2-0-2's has been made. Deliveries to other leading North and South American airlines will follow soon.

GIVES YOU MORE OF EVERYTHING!

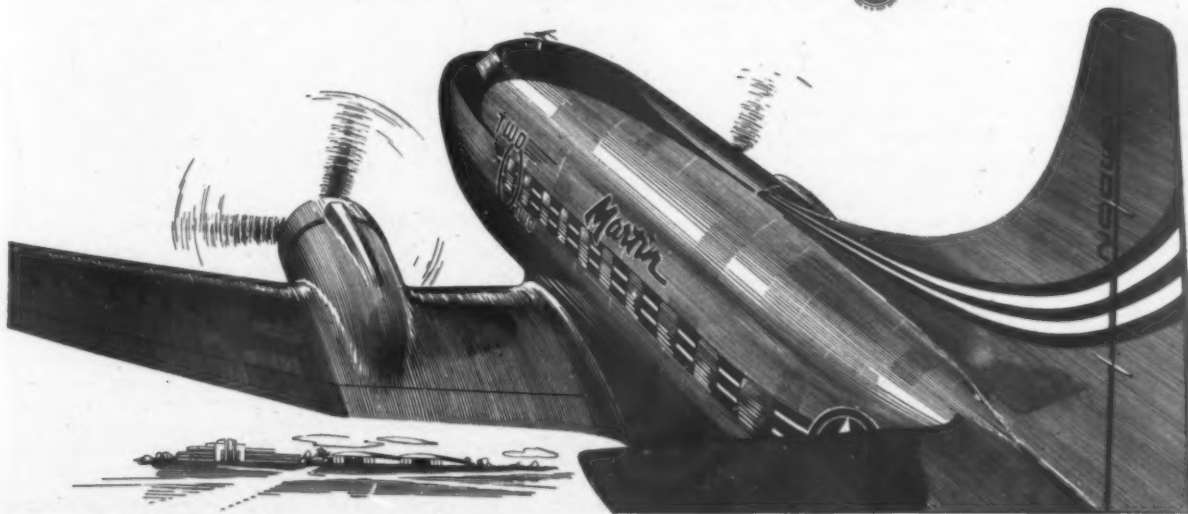
First commercial airliner of completely postwar design, the Martin 2-0-2 gives you more of everything! *More speed* . . . they're 100 m.p.h. faster than the planes they supplant! *More comfort* . . . with cloud-soft re-

clining seats, modern heating and cooling, smart styling, many other luxury features. *More dependability* . . . with heat anti-icing, flexible fuel tanks, automatic, propeller-feathering system, new highly efficient airfoil, ability to fly and climb on only one engine. *More economy* . . . with ease of maintenance, low operating cost, higher payload and other features that make for profitable airline operation. As the world's leading twin-engine airliner, the Martin 2-0-2 gives you **MORE OF EVERYTHING!**

The Glenn L. Martin Company, Baltimore 3, Maryland

Martin
AIRCRAFT

Builders of Dependable  Aircraft Since 1909



FORTNIGHTLY REVIEW

(Continued from page 4)

Air Council Elects John D. Sullivan

John D. Sullivan, World War I pilot and New York attorney, has been elected executive v.p. of the National Air Council, successor to the Air Power League. William A. M. Burden, former Assistant Secretary of Commerce for Air, was elected a member of the board of governors. With the Air Transport Association and National Aeronautic Association already affiliated with the council, Sullivan expressed belief that when other important aviation groups join the council would become an important factor in advocacy of sound air policies for the U. S.

Legion Supports Aviation Program

Strong support for both civil and military aviation was voiced by the American Legion at its recent national convention which recommended: purchase during coming fiscal year of not less than minimum recommended number of aircraft—5,780 for military aviation forces; that Congress appropriate sufficient funds for immediate installation, maintenance, and operation of adequate navigational aids; that adequate funds be provided for continuous experimental and research work of the Air Forces; that steamship operators "should be encouraged to participate in overseas air transport, under proper regulation, on an equitable basis; and should be given the same consideration in granting certificates for overseas air service as any other applicant."

Aircraft Movements Up 61%

Aircraft landings and take-offs recorded by CAA control tower operators during the first six months of this year totaled 8,219,290—a 61% increase over aircraft movements recorded during the first half of 1946. Percentage-wise, private civil itinerant and local flyers were involved in 74.33% of landings and take-offs, commercial carriers accounted for 16.18%, and Army and Navy craft figured in the remaining 9.49%. Commercial airline landings and take-offs for the six-months period totaled 1,329,634, as compared with 1,146,092 for the same period last year, this being a gain of 16.01%. Operations of private planes jumped more than 90%.

Notes in the News:

Air mail service between U. S. and Japan and its adjacent islands began Sept. 5. Rate is 25c a half ounce, but 10c air letter sheets are acceptable . . . Engineering and Research Corp. expects to have its **new four-place Ercoupe** flying by fall, but no production deliveries are contemplated before spring. The craft is powered by 165 hp Franklin engine, has top speed of 164 mph, cruising speed of 147 . . . **A new world's speed mark** of 650.6 mph was set at Muroc Army Air Base on Aug. 25 by the Douglas Skystreak, Navy's D-558, piloted by Maj. Marion Carl, U.S.M.C. Just a week earlier, Comdr. Turner F. Caldwell, Jr., had set a mark of 640.7 mph using the same craft . . . A 12-month study of the **nature of haze** is being undertaken by University of Cincinnati's Research Foundation under a \$67,000 contract with AAF . . . John K. Northrop, president of Northrop Aircraft, on Sept. 3 was awarded the **Spirit of St. Louis Medal**, highest aviation honor bestowed by the American Society of Mechanical Engineers, "for his originality and vision in the engineering of military and commercial airplanes, and particularly for the development of a successful flying wing."

International

New Russian Transport Designed

A new twin-engined transport, accommodating 27 passengers and crew of four, has been designed by Sergei Ilyushin for Russian domestic lines. The plane is said to be similar to the Douglas DC-3, but with retractable tricycle landing gear and four-bladed propeller.

Mexican Line Plans European Service

Aerovias Guest, S.A., organized last year by Mexican and U. S. interests, has applied to the Mexican aviation authorities for a permit to operate to Europe. The route tentatively selected is Mexico City-Miami-Bermuda-Azores-Lisbon-Paris-London. The company has been negotiating with Lockheed Aircraft Corp. for purchase of two Model 749 Constellations, conditional on receipt of all necessary route authorizations. Chief U. S. financial participation is provided by Winston Guest, head of Guest Enterprises and well-known international polo player.

International Airport in Philippines

Projected construction of a large international airport costing an estimated 16 million pesos has been announced by the Philippine government. The project would combine Nichols Field, the AAF terminal, with two other landing fields now used by commercial craft, for an overall area nearly seven miles long and three miles wide.

Swissair to Start Atlantic Service

Swiss Air Transport Co. Ltd. (Swissair) plans to inaugurate trans-Atlantic service with Douglas DC-4 equipment in late September, if CAB issues the necessary foreign air carrier permit by that time. One round-trip per month will be flown at the outset.

Aerlinte Applies for Trans-Atlantic Permit

Aerlinte Eireann Teoranta, Irish airline, has applied to CAB for a trans-Atlantic foreign air carrier permit covering a route from Ireland to New York (via Boston) and Chicago. Intermediate stops include Newfoundland and Canada, with Iceland, Greenland, the Azores, Labrador, and Bermuda listed as weather or operational alternates.

Aerovias Brasil Authorized to U. S.

A foreign air carrier permit has been issued by CAB to Empresa de Transportes Aerovias Brasil, S. A., a Brazilian airline. The permit authorizes service over a route between Brazil and co-terminals Miami and New Orleans, via Paramaribo, Dutch Guiana; Georgetown, British Guiana; Port of Spain, Trinidad, B. W. I.; Caracas, Venezuela; Ciudad Trujillo, Dominican Republic; Camaguey and Havana, Cuba.

IATA Conference Agrees on Schedules

A new and extended schedule of winter services agreed upon by the European Traffic Conference of the International Air Transport Association will connect the major cities of Europe by a grid of overnight air mail and air freight services for the first time since the war. The Conference voted to keep rates and fares at present levels throughout the coming winter, agreed on larger discounts for heavy shipments of commodities in Europe, discussed traffic interchanges between airlines and surface carriers, and announced that a comprehensive directory and timetable of scheduled air services in Europe will be published early next year.

Jungle Rescue...



Packet-helicopter teams which will provide a rescue service for any spot on earth are one of the goals of the Air Force.

The need was dramatically demonstrated recently when the Air Rescue Service of the Air Transport Command transported helicopters in Fairchild's Flying Boxcars to the jungles of Nicaragua. Crew members of a Flying Fortress lost in the almost impenetrable jungle were located and transported to safety by this efficient team.

The C-82 Packet, with its huge unobstructed cargo capacity and its range can also serve the nation in peacetime as a fast, versatile "plane of mercy", flying in and out of short airstrips wherever the emergency needs of floods, hurricanes and other disasters require. Together with a helicopter which can hover like a humming bird over impassable terrain, they make an unbeatable team that offers welcome protection to civil and military aviation all over the world.

 **Fairchild Aircraft**

Division of Fairchild Engine & Airplane Corporation, Hagerstown, Maryland

Editorial

(Continued from page 1)

They are stubbornly and ignorantly ignoring the facts.

Lack of traffic control is the most single critical item in European aviation today. The outlook for early improvement is not too good. All airline companies are steadily increasing the amount of flying and the speed of their equipment, yet little constructive effort is being taken toward regulation of this traffic. It is quite serious. Aviation need not learn the hard way, but the European governmental bureaucrats of which there seem to be untold thousands, apparently are set to go along their incompetent ways until tragedy budges them into action. And one wonders if even this will achieve action.

2. **Fares Are High.** Most of the European airlines are talking about higher fares, but the fare structure in Europe is quite high now. How many American operators would like to be operating planes in the United States with fares of from seven to fourteen cents a mile! Granted that the incidence of international operations increases the over-all cost, there are few fares in Europe as low as seven cents a mile and there are a great many in the ten-eleven-twelve cents per mile bracket. Even making allowances for the virtual lack of night flying, European companies are far behind the American companies in achieving efficient operations based on high utilization of aircraft. The Scandinavian companies have done the best job of striving for lower costs and lower fares. The Dutch have moved somewhat in that direction, too.

Perhaps the dominant theme in Europe is the general absence of a strong desire to lower costs in the public interest, i.e., to drive forward, to compete with surface transport and to achieve low costs by volume operation. Air travel in Europe is still on a luxury level. The airplanes spend too much time on the ground. A round-trip a day is the general concept instead of putting that airplane to work. But on the other hand, as noted earlier, Europe is not ready for handling volume air movements.

In the United States, time is money. People will pay a premium to get to their destinations faster. In Europe time is not of so much consequence, hence the travel cost of greatest importance. To people in Europe who reckon the travel cost carefully, the airplane is largely out of their means and it is not pleasant for someone in American aviation to contemplate the backlogs of surface transport (up to six months ahead) merely because airplane travel is so expensive.

But then too, European aviation is still struggling to raise its head from the wreckage of war and the extremely sick economic conditions of most countries. In some countries government control has

surfeited the airlines with mobs of incompetents and hangers-on. In others there is an appalling lack of respect for maintenance and operating safety and efficiency. But in others there is a sincere and constructive drive to build efficient maintenance bases, to train pilots thoroughly, to operate efficient and safe airlines.

3. **Europe Is Sick.** Over-riding European aviation is the general economic situation of Europe which is, to put it mildly, very bad. Much has happened (or failed to happen) since the war ended. In 1945 the Allies were determined to strip Germany and keep it "ploughed under" for good. But only the most stupid kind of dreamer can avoid the conclusion today that the revival of industry and economy in western Germany is absolutely essential to the economic well-being of the rest of Europe. Until the Rhine-Ruhr areas of Germany get back to work, the surrounding countries are severely handicapped. Even the most bitter enemies of Germany, those people who were under the sufferance of the Germans during the war, want German industry revived. Control this industry, certainly. But put the Germans back to work and restore trade. There is no other way out.

Also since 1945 is the increasingly sharp cleavage between Russia and the western powers. One can write all sorts of polite and diplomatic words about this situation, but in Europe there is no evasion of reality, and reality is simply that every effort to cooperate and collaborate with Russia has failed and that the lines are being drawn sharper every day. This does not mean that war is inevitable, although war talk is abundant from the northern tip of Norway on down through Europe. All of this, of course, has a vital bearing on aviation. But people must travel. And with ground transport in Europe still in poor shape (and for a long time to come), the airplane is the primary means of efficient communication.

And then there is the currency problem. Britain's current crisis and the new currency restrictions are a terrific blow to airlines operating into England. Britons must use British transport or provide an awfully good reason otherwise. Travel in and out of Germany is handicapped for lack of a usable German currency. Some of the other European currencies are unstable.

European aviation today does not present a very optimistic outlook, yet there is a large volume of flying, most of the planes have been full this year, and people must travel. Given some leaders who understand postwar air transport and its concomitant problems, European aviation should move ahead. One way or another, it will.

WAYNE W. PARRISH
AMERICAN AVIATION

UNITED STATES RUBBER COMPANY

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"DISTINGUISHED SERVICE TO SAFETY"...

...tells the story of NORTHEAST AIRLINES

210,000,000 passenger miles without a fatality is the proud record of Northeast Airlines! The National Safety Council recognized this unblemished record in presenting its "Distinguished Service to Safety" award to Northeast's President, Paul F. Collins.

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PLANE FAX



A page of service tips for private flyers and fixed-base operators

How high can your oil temperature go?



When oil temperature goes dangerously high, the lubricant becomes too thin. Since thin oil cannot provide an effective seal, your engine is plagued with blow-by and the danger of stuck-rings. Oil temperature should be held within your engine manufacturer's specified limits. Until the perfection of RPM Compounded Aviation Oil with its adhering agent and oxidation inhibitor, 200° F. was considered the top limit. With "RPM," however, the margin of safety has been considerably increased and operation at higher temperatures can be tolerated.

Why Chevron Aviation Gasoline increases range

Standard engineers constantly test Chevron Aviation Gasoline with devices like this electronic pressure-recording machine. This and other special tests mean more powerful punch in Chevron Aviation Gasoline that gets you to the airport you ordinarily couldn't quite make because it provides greater range. To consistently get long range, and resulting economy, stick with "Chevron"... like the leading manufacturers and airlines in the West who use Chevron Aviation Gasoline exclusively.



Hazardous to clean engines with gasoline



It is the flash point of a petroleum product that determines how safely you can handle it. Gasoline, when used to wipe off a plane, in addition to damaging fabrics and other materials, is hazardous because of its low flash point. RPM Aviation Solvent, highly refined with a high flash point, has a volatility range which prevents it from drying too rapidly for thorough cleaning of all metal planes and engine parts, and it can also be safely used to remove spots and oil stains from fabrics.

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Background and Trends

(Significant Developments and Forecasts Based on the Fortnight's Top News)

Gaining: On basis of incomplete reports so far received by CAB, domestic airlines will show net operating loss of approximately \$16 million for first half of year. This represents good comeback in second quarter after \$18.8 million loss during January-March.

More Talk: CAB's approval of the sale of Denver-Los Angeles route by Western Air Lines to United Air Lines is expected to start more merger and consolidation talk in the industry.

Leaving CAB? Clarence Young, CAB member, has been approached by Robert L. Smith, chairman of the Board of Airport Commissioners of Los Angeles, to become director of airports for that city, and may leave CAB to assume the West Coast job next month. The L. A. Airport is managed by Woodruff De Silva, who is slated to remain as a civil service employee; Young would take over general responsibility for the city's entire airport program. Salary of the new post is open, but would probably exceed the \$10,000 paid CAB members, if Young takes over.

Competition: Airline traffic officials attribute part of the summer drop in business to fact that people are again using private automobiles on a wide scale for vacation travel. These officials state that during the past few weeks traffic has shown encouraging gains.

Record: American Airlines expects to carry nearly 3,000,000 passengers this year for a new commercial air transportation record. In first half American carried 1,289,934, some 31% more than in same period last year. Total for 1946 was 2,485,589.

Altitude Problem: Pratt & Whitney is working on modification of engines powering the Convair Liner to solve operational problems encountered at high altitude airports, such as La Paz, 13,500-ft. field.

Short Takeoff: The Martin 2-0-2, which needed only a 4,000-ft. runway to meet CAA requirements in clearing a 50-ft. obstacle under zero wind conditions, should have no trouble serving cities with small airports.

Favored: Boeing's C-97 Stratofreighter is reported to have the edge on the Douglas C-74 Skymaster in Army Air Forces procurement plans. AAF has ordered 10 of each, but with its budget restrictions has decided to concentrate on one type of big transport. Fairchild C-82 Packet orders are not affected.

Lightplane Forecast: Despite this year's slump, T. P. Wright, Administrator of Civil Aeronautics, is holding to his forecast of May, 1945, that there will be 400,000 registered civil aircraft in the U. S. by 1955, and that annual production at that time will approximate 150,000.

Protest: Hot political battle is brewing in Pacific Northwest over a direct air route from Portland and Seattle to Honolulu, following an adverse report by CAB Examiner Warren E. Baker. Business and civic interests have formed permanent committee to mobilize Pacific Northwest states and Hawaii in the campaign. Committee's first move was to charge CAB with rate discrimination, pointing to difference in rate from San Francisco and Los Angeles to Hawaii as compared to rate from Seattle or Portland. Congressional representatives are expected to bring pressure on both President Truman and CAB.

Loan: CAB's approval of the sale of Western Air Lines' Denver-Los Angeles route to United Air Lines is seen as clearing way for the \$4,500,000 loan WAL requested from Reconstruction Finance Corp. Favorable CAB decision was one of the conditions imposed by RFC in considering the loan.

Assigned Seats: Worth watching for passenger reaction is practice just inaugurated by Pan Am's Pacific-Alaska Division of assigning seats to Clipper passengers. Seats are earmarked for each passenger at time tickets are inspected at terminals just before flight departure so that families and friends may sit together. Once a flight is underway, the seat assignment may be changed to any vacant seat upon request to flight purser.

Increase: U. S. certificated airlines were operating 907 transports in August, an increase of 161 over the 746 a year ago.

Better Service: Eastern Air Lines has had demands from some passengers for refund of the "extra fare" on the Constellation when trips have been late. Eastern, however, refuses to admit that there's an extra fare on the Constellation. It's a higher fare for a better, different service, and you pay for what you get, Eastern says.

Popular Service: West Coast Airlines has caught on in a big way with its Seattle-Port Angelus service. Across Puget Sound, surface transportation between the points involves a ferry trip which makes it a five-hour journey. By air the trip takes 35 minutes. Traffic, especially on week-ends, requires frequent extra sections. When the airport at Fort Townsend is completed, the feederline's traffic on this segment should swell to even greater volumes.

Blocked: Iowa Airplane Co. is blocked from inaugurating feeder service in the midwest because of lack of adequate airports at 13 of 29 towns to which it is to give service. Only towns with adequate airports along one of its three routes are those already receiving service from United or MCA; to begin operations at present would mean paralleling both these airlines rather than offering a feeder service. The airport problem is not expected to be solved at least before next spring.

Still No Market: Boeing Aircraft recently completed a new market survey on its Model 417 twin-engined feeder-type plane, but found nothing to justify reinstatement of the project. Boeing originally visualized three markets: (1) feederlines, (2) South America, (3) U. S. trunklines for inter-city service. The feederline market disappeared when CAB adopted policy of issuing feeder certificates on temporary three-year basis. Lower prices on surplus equipment knocked the props from under the South American market, while financial difficulties of the trunklines left them short of funds to purchase additional new equipment.

Merger? Although unification legislation gives each service the authority to operate in its own sphere, there is possibility of merger of Air Transport Command and Naval Air Transport Services. Neither ATC nor NATS will admit at this time that their services will become one, yet officials of each concede that merging probably is inevitable under the unification program.

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NWA Primes 202 for Airline Use

New Martin Transport Promises Good Flight Service And Much Improved Revenue Potential for Northwest

By DAVID SHAW

Within the next week or two Glenn L. Martin's bid for a piece of the transport aircraft market will load its first commercial passengers in Minneapolis and carry them to Chicago. In subsequent weeks, as all 10 of Northwest Airlines' Martin 2-0-2's are delivered, the new plane will replace all DC-3's (and a few DC-4 locals) between New York and Billings, Mont.

Was the 2-0-2 a wise choice for the airlines which have ordered it? We have just spent several days at Northwest Airlines' Twin Cities headquarters to find out what their limited experience indicates about the airplane's performance and revenue potential. Our findings, making allowances for the fact that NWA has been flying and evaluating the 2-0-2 only since Aug. 10, and also for the tendency of all aviation people to be quite critical of a new model, indicate that it is every bit as good an airplane as the manufacturer promised.

The 2-0-2, sold and built direct from the drawing board, has equalled or exceeded manufacturer's guarantees in all respects but one. The empty weight is slightly higher, with a resultant loss of range with maximum payload, but otherwise it is as good or better than promised. There seem to be few serious bugs in the ship and, in general, Northwest's personnel are highly enthusiastic about it.

Getting Rid of 'Bugs'

Most of the bugs have turned up in the accessory systems rather than in the airplane itself. The Martin company and the equipment manufacturers have put their best talent on every unsatisfactory item, and subsequent deliveries should be as free of bugs as any new airplane ever delivered.

The 2-0-2 will carry 40 passengers against the DC-3's 21. It will overtake a DC-4 and leave it behind with about 35 extra miles per hour. Since Northwest plans to replace DC-3's with it, it might be assumed that the company will have a lot of extra

seat miles and a lot of selling to do. However, not having invested very heavily in postwar DC-3 and DC-4 conversions, NWA needs the extra seats. In fact, a few DC-3's probably will be kept on hand for extra sections, although the majority will be placed on whatever is left of the market.

High-Speed, Short Haul

Since the 2-0-2 is essentially a high-speed, short-haul airplane (best at under 350 miles), Northwest plans to use it only in the eastern region on high density routes. There are several reasons for not operating west of Billings. The single engine altitude limitation is a minor factor, critical at only one point on the system (between Billings and Butte) and possible to overcome by cutting payload a few hundred pounds. More important is the fact that 10 airplanes could not effectively be spread over the coast-to-coast system. By keeping DC-3's on the western runs (they are slated to be replaced by 3-0-3's next year), NWA can confine its mechanical and parts supply problems to only two types in each region.

Assuming that seats on the 2-0-2 can be filled without costly sales effort, Northwest sees an excellent revenue potential in the airplane. Direct operating cost is estimated to be only 6½ to 7c per mile more than with a DC-3. Break even point on the passenger load factor appears

to be in the neighborhood of 55%. Thus, by filling 22 seats at 5c a mile, a passenger revenue figure of around \$1.10 a mile can be expected. Under Northwest's method of computing costs, 41c per mile is estimated as the direct flying cost of the airplane.

Unlike some of the larger planes, the 2-0-2 will not make or break the company according to the amount of cargo space which is filled. Close to 90% of the 2-0-2's payload capacity is devoted to passengers and their baggage.

Other revenue potentials of the airplane, some of them still to be proved beyond all argument but nevertheless indicated by Northwest's experience to date in training and proving operations, include quick loading and unloading, simple trouble-shooting and maintenance, and long service life of components.

Less Ground Time

Northwest is guessing that the 2-0-2 will need less time on the ground at route stops than the DC-3. Two innovations contribute materially to this. The built-in tail loading ramp (which thus far has not given the slightest trouble) is raised and lowered by the stewardess without waiting for a ramp attendant. The Parker under-wing fueling system, for which fuel trucks along the system are now being modified, will cut fueling time substantially. Despite considerable apprehension, the under-wing fueling has functioned perfectly and the installation has been enhanced by underwing gauges on

Martin 2-0-2 Performance Based on Flight Test and Certification Data

Manufacturer's Empty Weight	24,660 lbs.
Empty Operating Weight (including 300 lbs. oil)	26,631 lbs.
Maximum Takeoff Weight	38,000 lbs.
(wing loading 44 lbs./sq. ft., power loading 9.5 lbs./h.p.)	
Landing Gross Weight	36,500 lbs.
(Wing loading 42 lbs./sq. ft., power loading 8.7 lbs./h.p.)	
Maximum Payload (structural)	8,360 lbs.
Maximum Payload (165 lbs./passenger, 10 lbs./cu. ft.)	8,045 lbs.
Maximum Range with Full Payload (8,045 lbs.)	399 mi.
(5,000 ft., 60% power, 0 wind, 554 gals. fuel inc. reserve)	
Maximum Range with Limited Payload (4,939 lbs.)	1,000 mi.
(conditions same as above)	
Takeoff Distance (accelerate and stop, 38,000 lbs., sea level)	3,945 ft.
Landing Distance (36,500 lbs., sea level)	2,400 ft.
Runway Length for Landing Under T Category	4,000 ft.
Cruising Speed (1,080 h.p. (60%), 5,000 ft., 38,000 gross)	237 m.p.h.
Stalling Speed (38,000 lbs., full 45° flaps)	63 m.p.h.
Single Engine Enroute Altitude	
(at 38,000 lbs.)	9,000 ft. (calculated)
(at 36,500 lbs.)	14,000 ft.
Two Engine Ceiling at max. gross	22,000 ft.

which Northwest personnel are relying more than the automatic shut-off to prevent over-filling.

Northwest's eastern region pilots and co-pilots, under the direction of system chief pilot Carl Luethi and eastern region chief pilot Jack Hugin, have been checking out in the ship since the first NX model was turned over to the airline.

Pilot reaction to the 2-0-2, allowing for a few items which have had to be altered or redesigned for incorporation in later models, is quite favorable. About the nearest thing you can get to an unsatisfactory comment is that "it's just another airplane." This reaction seems due to the fact that although it is an altogether new type, there is nothing complicated or tricky about flying it.

Good Cockpit Layout

The cockpit arrangement is simple and logically planned. The airplane handles nicely, and pretty much does just what a DC-4 pilot would expect it to do. About the only out-of-the-ordinary characteristics are that it gets off the ground faster than pilots expect, and that with full flaps it approaches the runway in a rather steep attitude. Most of them are inclined to leave the flaps in approach configuration rather than lower them to full 45 degrees.

Northwest's procedure is to take off using 12½ degree flaps until the plane reaches maneuvering speed of 145 mph. Climb-out is made at around 800 feet per minute, although the ship is capable of 1500 feet or better. For cruising at 60% power (1050 hp) the settings are 29 inches and 2100 rpm. On landing, the plane crosses the fence at between 100 and 105, and touches down at 80-85.

Everyone likes the Pratt & Whitney R-2800-CA18 engines, both for the way they drive the airplane and for their simplicity in maintenance. The Hamilton Standard high activity factor propellers are something new in airline experience. Squared-tipped and slightly wider at the tip than root, they are designed for take-off and maximum cruise efficiency. Although designed to be reversible, this feature is blocked off under present CAA orders. The propellers are electrically heated for ice. Northwest has had no engine or propeller trouble in more than 250 hours of operation on the first airplane.

People have worried because the props clear the ground by only 9½ inches, but Northwest hasn't found any reason to expect trouble on this account.

On the negative side, pilots have not taken readily to the Martin automatic propeller feathering system. Their criticism is directed as much at the regulation which requires automatic feathering as at the Martin system. However, they are definitely suspicious of the 2-0-2 installation in

Helicopter Passenger Service Approved by CAB

CAB gave its first approval to an experimental passenger-carrying helicopter service, Sept. 8, when it authorized the Yellow Cab Co. of Cleveland, Inc., to conduct passenger-property service from Cleveland Municipal Airport to a terminal in downtown Cleveland and from the airport to Euclid, O., via Shaker Square.

Both Parks Air Transport, Inc., East St. Louis, Ill., and Roscoe Turner Aeronautical Corp., Indianapolis, Ind., were given feeder routes in the Great Lakes Area Case decision, while Chicago and Southern, Delta, TWA, and United were granted additional services in the area. Details will appear in next issue.

that the multitude of steps in arming and actuating the system leave too many opportunities for malfunctioning. The airplane is certificated with the system, and the pilots have learned how it is used, but most of them would like to see the regulations changed to let them do all their feathering manually.

The first NX ship had a few other things which pilots didn't like. They objected to the nose wheel steering, which castered nicely without steering but reacted rather abruptly if a pilot tried to steer it on the runway. Martin is redesigning the steering and will deliver the fourth airplane with a new mechanism. Kits will be made up for the first three.

Cockpit lighting has been found unsatisfactory and is being changed. Capital Airlines, for which the first ships originally were intended, specified red and black lighting. Northwest found it to be inadequate in twilight conditions and in seeing anything but the instruments during darkness. It is being changed to give pilots a choice of red, white or both.

Autopilot Trouble

There has been trouble with the autopilot installation, particularly in making coordinated turns with the A-12. Sperry engineers are working with the Martin company and expect to get the 2-0-2 acting the same way on autopilot as it does manually.

On features which concern the mechanical department more than the pilots, the 2-0-2 has much to recommend it. Except for a couple of hard-to-reach items, it is an exceptionally easy airplane to work on, with numerous wing openings, inspection plates (through which a man can stand up to work on cables and accessories) all along the belly.

Batteries swing out and down on a swivel rack through one of the belly openings. A large panel in the

firewall can be taken out to work on the rear of the engine. The Mareng wing tanks are easy to install.

The hydraulic system has caused absolutely no trouble, and there is a small motor in the nose for emergency hydraulic pressure. The 28 volt electrical system (aside from some generator trouble which seems to be corrected) is good considering the load it carries. The Goodyear spot-type brakes have proved efficient and trouble-free. Tire wear has been very low.

All chief mechanics and accessory specialists got a three-week course at the Martin plant before the first plane was delivered. Since Northwest started flying the 2-0-2 all mechanics have been getting a combination of classroom instruction and practical experience on the ships used in pilot training. It can't be too tough a ship to service, because even with the rough treatment it has received in pilot training and with trainee mechanics doing the work, the first ship turned in a utilization figure of better than seven hours a day during the first month it was flown.

For the sake of the record, it should be mentioned that one employee group at NWA is quite cool toward the 2-0-2. The stewardesses don't think it will be an easy plane to work. Despite the fact that Northwest will use it primarily on short hauls and hopes to serve full meals only to passengers riding from New York to Minneapolis, or from Minneapolis to Billings, the girls aren't eager to be assigned to it. They say that the galley, located at the head of the tail ramp and directly opposite the lavatory, is short on space for both assembling meals and disposing of leftovers.

They add that passengers just won't be able to use the "blue room" (which, incidentally, is roomy and attractive) while meals or snacks are being prepared, because they will have to stack things in the aisle. They also point out that there is no coat rack, which is not expected to be good on a route where passengers in winter are likely to board the airplane with at least three fur coats plus a hat box full of extra wool socks.

The 2-0-2's interior does have several good points. The new-type MacArthur seats are comfortable and easy to maintain. Ventilation and lighting is good (both of these items are controlled by the stewardess from the galley), windows are extra large, and there are six emergency exits. The stewardess has a public address system so that she can make an announcement once instead of 20 times.

Regardless of minor bugs, or technical comparisons between the 2-0-2 and other new airplanes, it looks like Martin and NWA have combined to offer a better-than-ever type of flight service along Northwest's routes.

CAB Policy Views Clash In WAL Route Sale Decision

By DANIEL S. WENTZ II

Policies of paramount importance to the future of the entire airline industry were at stake in the Civil Aeronautics Board's decision that okayed the sale of Western Air Lines' Denver-Los Angeles route, plus property and equipment, to United Air Lines for \$3,750,000. Analysis of the four-man majority decision, and the dissent written by CAB's Chairman James M. Landis confirms the view that principles of free enterprise with minimum interference by Government in areas of managerial discretion have prevailed in the majority action over a philosophy that might have increased Federal regulation of the airline industry.

The 50-page majority decision—and the 44 pages used by Landis to voice his disagreement—contain ample evidence that the chairman's views of the correct regulatory philosophy to be followed by CAB stand far apart from the position taken by Vice Chairman Oswald Ryan and Board Members Harlee Branch, Clarence M. Young and Josh Lee. Close study of the two documents turns up abundant support for the thesis that a genuine and deep cleavage exists between the chairman and the Board in the most basic matters.

Future course of the industry in the highly important field of route sales or similar transfers between carriers is plainly mapped out in the majority opinion.

Meaning of Decision

The Board's action means it will recognize that air carrier properties, particularly going routes, do actually have a market or sale value higher than the value CAB will allow an airline to place on the same property when it is being used to work out the basis for setting mail pay rates.

The Board's own language announcing this highly-important policy is as follows: "Where the record shows that the price agreed upon by the air carrier parties to an acquisition was reached in negotiations conducted at arm's length by men of experience, ability, and knowledge of the air transport business and free from any suggestion of collusive or fraudulent purpose, and that the price is not unreasonable when judged by the standards of the commercial market; that that part of the price representing intangible value is not disproportionately large; and that its payment will not impair the operat-

UAL Operating New Route

United Air Lines was planning to begin operations over its newly acquired Denver-Los Angeles route on Sept. 15, with four round-trips daily using Douglas DC-4's purchased from Western Air Lines. Two of the trips serve the intermediate points of Grand Junction and Las Vegas, the other two being non-stop.

ing efficiency of the purchasing carrier, or weaken its financial position or future earning power, no basis exists for a finding that the purchase price will be adverse to the public interest."

Chairman Landis wanted to rule out the Western-United transaction because the price allowed for intangible values over and above the actual properties transferred. He refused his approval unless Western and United agreed to cut the price by an amount equal to the value placed on the intangibles.

Defends Profit Incentive

Answering Landis' view, the majority said, "We can find no justification for a decision which would outlaw the profit incentive from business transactions like that before us. One of the basic attributes of free enterprise is the right of a business corporation to purchase the property and business of another at a price which will permit a reasonable profit to the seller since otherwise there is no incentive to sell. Although an air carrier is a public service company and as such is subject to all necessary and reasonable regulation for the protection of the public, it does not follow that such a company must be shorn by regulatory action of a discretionary power commonly possessed by business management *where the exercise of such power has not been abused.*" (Board's italics)

If the Board did not accept normal market standards for arriving at prices in a business transaction, it would obviously have to take the responsibility of fixing prices according to its own standards. To do so, the majority held, would be "not only contrary to the intent of the (Civil Aeronautics) Act but outside the competence of the Board."

It emphasized that United was buying the earning power of the Denver-Los Angeles route which it believes will be greater as part of its system than as a part of Western

Air Lines. This earning power, CAB said, is not to be confused with any value that might be placed on the route certificate as such. "Decisions underlying such transactions are basically the responsibility of management, subject only to regulatory action where managerial discretion has been abused," the Board held.

There was much discussion in the majority opinion and in the dissent of the need for remaking the U. S. air route pattern. The Board said that route sales and transfers were one of the important ways of making such adjustments. It concluded that to rule out any profit in a sale would prevent such transactions and in effect "freeze" the air pattern in its present design. "If successful air carrier properties are not recognized by this Board as having a market value which is somewhat in excess of the investment value of the properties for (mail) rate-making purposes, the possessor of such properties will have no incentive to transfer such properties to another air carrier who would be in a position to operate them with greater advantage to the public interest."

Landis agreed with the Board that it was in the public interest to have United rather than Western operate the Denver-Los Angeles route as part of its transcontinental system, but balked at the price.

It may be deduced from statements in the majority opinion that Landis suggested that an "incentive" for profitless route transfers might be found "in the application by the Board of 'pressures' upon those air carriers that refused to part with their property and business without the inducement of a profit."

This plan was vehemently rejected by the Board. "One of the gravest mistakes this Board could make," the majority declared, "would be to assume that the end justifies the means and that the Board could properly do indirectly by the exertion of such compulsion what it could not do directly. We know of no direct or indirect means available under the existing law by which an air carrier can be forced against its will to transfer its property, business and certificate to another carrier."

Most Significant Issue

Landis' dissent said that issues in the Western-United transaction "seem to me more significant than any issue that has been presented to the Board during my service with it." He maintained that the Board's action would bring inflation in the values of airline properties. "The majority doctrine," Landis claimed, "will provoke a series of mergers and route transfers that will be irrational and unfortunate in the extreme because they will be dominated by the principle of selling to the highest bidders, or else the doctrine, what-

ever other incentives for such mergers and route transfers might exist, will bring about a stalemate." According to Landis, the Board's action amounts to an "invitation to certificate holders to join in a game in which they inevitably win and the public inevitably loses."

Reasoning behind the Chairman's view is briefly as follows: (a) the air transport industry has no valid claim against the public to earn more than a fair return on its investment; (b) "in view of the subsidy presently given the industry, there is a high obligation upon this Board to see that the return, inclusive of mail pay, is limited to a fair return"; (c) any values above actual cost that are attached to an airline property are based on the expectation of earning more than a fair return. According to Landis, such values exist only "because of the inherent fallibilities of man and his government."

"It is hardly a legitimate aim of a regulatory body to sanctify these values, or worse, to write them in to the very regulatory structure dedicated to their elimination. But that is the effect of the doctrine now being announced by the majority."

Board and its chairman were at loggerheads on still another point in the case. As a condition to the sale, United was required, as of the date of payment of the total purchase price of \$3,750,000 (\$1,000,000 of which has already been advanced to WAL as a loan) to charge to its surplus account the difference between the total sale price and the original cost to Western of all property transferred, both tangible and intangible, less depreciation at the time of the transfer.

Accounting Device

In this way, the Board said, it would assure that no portion of the excess included in the sale price would ever be included in the investment base used in figuring United's mail pay. Landis called the condition an "accounting device" that amounted to "folly." If the total purchase price were booked as an asset by UAL, it might be used in the total investment employed in mail pay calculations. United, however, has repeatedly assured the Board it has no intention of seeking any return through mail pay for the market value portion of its Denver-Los Angeles route sale price.

Later, UAL asked the Board to modify the condition because it could not charge the specified amount—estimated in the neighborhood of \$1,500,000—to its surplus account without creating a surplus deficit. Company's surplus at July 31 was only \$1,242,921. Such an accounting procedure, said the company, would be inadvisable and contrary to the best interests of the airline or its stockholders. It asked CAB to allow it to enter the amount against its account for "Other Intangible Assets," where

UAL Offers to Purchase Twin Cities-Denver Route

Transfer of Western Air Lines' Denver-Los Angeles Route 68 to United Air Lines will have some effect on Western's present service between Minneapolis-St. Paul and Los Angeles. This service is now flown over the routes of Inland Air Lines (a Western subsidiary) from Twin Cities to Denver, and over Route 68 from Denver to the west coast.

UAL president W. A. Patterson has taken the initiative to assure that this service will be continued. In a letter to Mid-Continent Airlines' president, J. W. Miller, Patterson said: "During the hearing on our acquisition of the Denver-Los Angeles segment of Western Air Lines' route, representatives of Minneapolis and St. Paul were very much concerned that they would be deprived of a one-carrier through service to Los Angeles—a service they then had. I made the statement that to assure that such through service would continue, United Air Lines would be willing to purchase the Twin-Cities-Denver route provided the Civil Aeronautics Board would set the price and approve the acquisition. United still stands ready to do this should the CAB and Western through Inland be willing. As an alternative, we also advised that United would be willing to enter into negotiation with Mid-Continent Airlines for some rights to fly over Mid-Continent's Twin Cities-Omaha route, provided arrangements fair and equitable to both companies could be consummated."

it would be permanently earmarked for exclusion in mail rate cases.

It appears that the profit made by Western in the sale (approx. \$1,500,000) will probably be deducted from future mail pay to be received by Western. Chairman Landis pointed out in his dissent that the \$1,500,000 under any theory is profit to Western and as such is revenue under Section 406(b) of the Civil Aeronautics Act which the Board must take into consideration in fixing any need rate. The Board thus must in the last analysis charge the subsidy that Western will get and upon which it must depend with that amount, so that in the end, Western's acquisition of \$1,500,000 becomes only a temporary advance against future subsidy payments. Some observers view the \$1,500,000 as an interest-free loan to Western for an indefinite period until the company's next mail rate decision comes down.

Western's financial condition stands an excellent chance of recovery as a result of the decision.

C & S Quits Willow Run Consolidation Service

Contending that the Airlines National Terminal Service Co. has neither the organization nor the facilities necessary successfully to give adequate service to its equipment and passengers, Chicago and Southern Air Lines has withdrawn from most of the consolidated terminal services at Willow Run Airport.

In a letter to R. H. Callahan, general manager of ANTSCO, the airline said:

"Our experience since the date of the consolidation has been very unsatisfactory; our flights have been unnecessarily delayed; passengers, baggage and cargo have been mishandled, and other errors of omission and commission—many of them serious—by ANTSCO have occurred so frequently in so short a time that it would be a lengthy project indeed to attempt to enumerate them."

The decision to withdraw from the consolidation does not mean, C & S said, that it is unwilling to participate in the joint operation of airport facilities. The company said that "if, as and when ANTSCO can demonstrate that it has the organization, personnel and facilities with which to conduct safe, reliable and efficient operation at Willow Run at a saving to us, we shall again be interested in ramp, lobby and maintenance service."

C & S is placing its own personnel at Willow Run and has asked for space in which to set up its own ticket counter.

PCA Sues to Recover \$15,000 from O'Donovan

A suit to recover \$15,000 in profits allegedly made in sale of the company's stock by a former vice president, J. J. O'Donovan, has been filed in District Court in Washington by Pennsylvania-Central Airlines Corp.

It is alleged in the suit that O'Donovan bought 750 shares of the airline's common stock at \$14.125 a share, or a total of \$10,593.75, and later sold the stock at a profit of \$15,071.93, which the company wants returned.

This constituted a violation, the company said, of a Securities & Exchange Act clause prohibiting officers from engaging in stock dealings during periods of less than six months. O'Donovan has been quoted as saying that not only he, but four other PCA officers as well, had exercised stock options in 1945, all selling their stock less than six months later. He said it was then discovered this might have been illegal, and that he understood the other officers involved had signed long-term notes to the company covering the amount of their profits. He said he did not sign such a note.

AMERICAN AVIATION

Aviation Calendar

Sept. 15-17—Air Force Association first annual convention, Columbus, Ohio.

Sept. 16-18—Second Regional CAA Conference, Atlanta, Ga.

Sept. 24—Meeting of aviation lawyers, Empire Room, Hotel Cleveland, Cleveland, Ohio, during American Bar Association convention.

Sept. 29—Automotive & Aviation Parts Manufacturers, Inc., annual meeting, Hotel Statler, Cleveland.

Sept. 29-30—Northwest Aviation Planning Council Conference, Portland, Ore.

Oct. 2-4—SAE Autumn Aeronautics Meeting, Biltmore Hotel, Los Angeles.

Oct. 3-4—Arizona State Aviation Conference, Douglas, with Arizona Airmen's Association.

Oct. 6-7—New York State Aviation Council meeting, Rochester.

Oct. 9-11—Air Line Dispatchers Association annual convention, Chicago.

Oct. 24—"Air Day in Texas," state sponsored aviation show, Harlingen.

Oct. 26-28—National Association of State Aviation Officials, Ft. Worth, Tex.

Nov. 4-7—National Airport Show and Institute, Municipal Auditorium, Cleveland. Sponsored by Air Foundation and National Aeronautic Association.

Nov. 6-7—SAE Fuels and Lubricants Meeting, Hotel Mayo, Tulsa, Okla.

Nov. 19-22—Fifth Annual National Aviation Clinic, Springfield, Ill.

Dec. 1-3—SAE Air Transport Meeting, Hotel Continental, Kansas City, Mo.

International

Sept. 16—ICAO Radio and Communications Division, Montreal.

Sept. 16—IATA Technical Committee, Nice.

Sept. 17—ICAO Meteorological Division, Montreal.

Sept. 22—Conference of Directors, International Meteorological Organization, Washington.

Sept. 23—ICAO Aerodrome Air Routes and Ground Aids Division, Montreal.

Sept. 23—ICAO joint Airlines Operating Practices Division, Paris.

Sept. 23—ICAO Special Airworthiness Meeting on Temperature Accountability, Europe.

Oct. 6—IATA Executive Committee, Rio de Janeiro.

Oct. 7—IATA Traffic Committee, Rio de Janeiro.

Oct. 14—IATA Third Annual General Meeting, Petropolis, (Near Rio.)

Oct. 15-17—Second Annual Air Conference, sponsored by Aviation Section of the Montreal Board of Trade, Windsor Hotel, Montreal.

Oct. 20—Annual Meeting, Air Industries and Transport Association of Canada, Gray Rocks Inn, St. Jovite, Quebec.

Oct. 20—ICAO Meeting on Multilateral Agreement on Commercial Rights, Petropolis, (Near Rio.)

Oct. 20—IATA Executive Committee, Petropolis, (Near Rio.)

Nov. 18—ICAO Search and Rescue Division, Montreal.

C-W Unveils Details Of 50-Ton Sky Truck

A full-scale mock-up of Curtiss-Wright Corp.'s proposed cargo plane—the CW-32—was unveiled two weeks ago at the company's Columbus plant and has since been viewed by numbers of commercial operators and military transport officers.

The 50-ton giant, which the company has tentatively dubbed the "Sky Truck," is one of the first entirely postwar planes designed in this country and first designed specifically for air transportation of heavy loads of freight.

Curtiss-Wright claims the ship can travel at 300 miles per hour and deliver 16 tons of freight from coast to coast at rates on a level with present rail express charges—and in one-twentieth the time.

Powered by four engines with a total of 8,400 horsepower, the plane's dimensions are nearly twice those of a standard freight car. The cargo hold is 61 feet in length and has a 4,800 cubic-foot capacity. It can carry all but the largest pieces of heavy mobile military equipment, and any commercial cargoes that can fit into a boxcar.

Company engineers estimate the CW-32's direct operating costs will be approximately 4¢ a ton-mile, which would mean, they said, the plane could deliver a ton of cargo overnight from New York to San Francisco at a direct flying cost of \$112.00.

With a hinged tail section that opens upward hydraulically, the CW-32 would be able to carry single

units of cargo up to 48 feet long, 9 feet wide and 7 feet high, and weighing as much as 32,000 pounds.

Because of its high-wing design, a 30-foot highway trailer truck can drive alongside under the wing and discharge cargo directly into the airplane through side doors at truck-bed height to cut loading and unloading time to a minimum. Another cost reduction feature is the set of Curtiss electric propellers, which will serve the dual function of braking the plane and of enabling it to back into and pull out of loading docks.

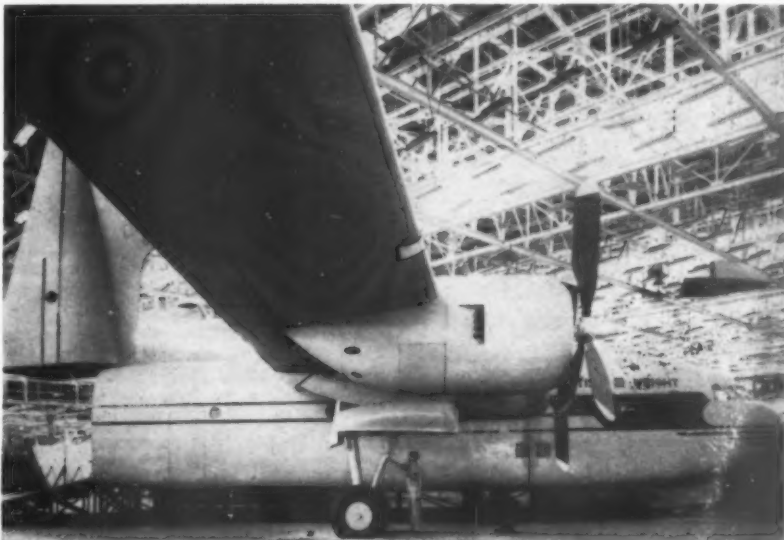
Curtiss-Wright says a production model of the CW-32 could be built in 12 months from the time orders justify its production.

Pan Am, Slick Sign Interline Freight Agreement

The first interline operating freight agreement between a scheduled all-freight carrier and an international airline was signed recently by representatives of Slick Airways and Pan American Airways.

Under terms of the agreement, international shippers enjoy the combined advantages of Slick's low-cost domestic airfreight service and the world-wide services and facilities of Pan Am. The arrangement gives Slick the opportunity to develop business destined for foreign points, and gives PAA the advantage of Slick's distributing system in this country.

The two airlines connect at New York, Los Angeles, San Francisco, Houston, Brownsville, Boston, Washington and Miami.



Curtiss Sky Truck—Mock-up of the 100,000-pound cargo transport built by Curtiss-Wright demonstrates the unusual loading features of the craft, designed from what engineers term "a mountain of specifications" set by potential military and commercial users. The entire tail section is hinged and can be opened hydraulically to allow vehicles as big as 7½-ton trucks and heavy field guns to be driven aboard the plane.

NATIONAL

NOW OFFERS

4-ENGINED SERVICE

to

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Philadelphia

Norfolk

Wilmington, N. C.

Charleston, S. C.

Savannah

Jacksonville

Tallahassee

Pensacola

Mobile

New Orleans

Tampa

Miami

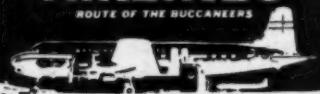
Havana

National Airlines is providing DC-4 and DC-6 service to a steadily growing list of cities along its Route of the Buccaneers. This luxurious 4-engined service has now been extended to five cities under 100,000 population. As new equipment becomes available, still other key points in the south will receive their first 4-engined service from National's famous Buccaneers.



NATIONAL AIRLINES

ROUTE OF THE BUCCANEERS



Post Office Shows Critical Attitude Toward Feederlines

Evidence of the Post Office, Department's cautious attitude toward feederlines is seen in exhibits filed with the Civil Aeronautics Board opposing certain additional service proposed by some of the carriers.

A Southwest Airways' proposal that it be allowed to originate and terminate some trips at points short of the termini on Route 76 was described by the PO as "both unnecessary and unjustified from the standpoint of the needs of the postal service." The PO added that it needs only one instead of two daily round trips over route 76 and that if this were the case it could save \$18,000 per month mail pay and \$23,408 annually on ground messenger service.

In a CAB case which deals with proposed new local and trunkline services in the California-Nevada area, the PO asserted that "certification of any new feeder airline service to points not presently served by air is both unnecessary and unjustified." As an exception it asked that Oroville, Calif., be added to route 76 and that Vallejo be deleted because it can receive adequate service by surface transport.

In the California-Nevada case, the PO said that "no mail pickup service is deemed necessary Proposals for such service are considered to be of no value to the Department, because of existing adequate transportation systems including the helicopter mail service soon to be inaugurated in the Los Angeles area." PO made no objection to new service proposed by TWA and United in the area.

The PO believes that the Los Angeles helicopter service "will be highly successful, in which event, Los Angeles Airways will probably seek to amend its certificate . . . to authorize the transportation of passengers with a consequent reduction in costs to the Department."

For this reason, the Department asked CAB to "consider an area extending beyond 50 miles from downtown Los Angeles as reserved for potential development of service by Los Angeles Airways, and that no applicant in the proceeding be certificated to engage in air transportation to any new points within such reserved area."

Service short of terminal points on Florida Airways' route was also opposed, but the airline's proposal to add Perry and Leesburg, Fla., to its route was endorsed. Florida's present route is "Y" shaped and two round trips daily result in octuple service at Orlando, Ocala and Gainesville on the stem of the "Y". The

PO wants the "Y" eliminated by cutting out the present connection between Gainesville and Jacksonville.

The PO's attitude on feeders can be expected to continue on the cautious side. The Department has for some time felt that too many feeders were certificated—that it would have been better to have had less, with each one having more route mileage than at present. PO officials emphasize, however, that they intend to do everything within reason to help the present carriers.

CAB Gives Cautious Okay To Negotiating Conference

Unanimous approval of the Airlines Negotiating Conference's Articles of Association and By-Laws was granted by the Civil Aeronautics Board on condition that its action not be construed as "approval or disapproval of the Conference as the proper bargaining representative in any particular negotiations with any labor organization."

The Board made it explicit that its approval dealt only with the Articles of Association as an agreement among 18 airlines requiring approval under the Civil Aeronautics Act unless found to be adverse to the public interest or in violation of any part of the Act.

"It is our opinion," the Board said, "that the agreements do not provide for compulsory industry-wide or multi-carrier bargaining. At most, it is optional, and must depend upon agreement of all parties involved in any dispute. We cannot assume that the member carriers have any intention to violate the terms of the agreement or that the Conference will function contrary to or beyond the authorization therein provided."

PO Makes 98% Advance Mail Payments to 'Mileage' Carriers

The Post Office Dept. will now make 98% instead of 90% advance mail payments to all air carriers who receive pay on a mileage basis. Airlines paid on a pound-mile basis are not affected.

The percentage payments are made on the basis of advance estimates submitted by the carriers near the end of each month. Reason for the move is to eliminate the holding of 10% of the funds due a carrier until such time as the formal claim is filed and audited. Carriers operating under a mileage basis receive approximately the same amount every month.

AMERICAN AVIATION

Rail-Air Competition:

Airlines Favored for Speed, Service

Speed and personal service are still the two outstanding advantages of air travel, according to most of the persons interviewed in the seventh national survey made for the Association of American Railroads by Opinion Research Corporation, Princeton, N. J.

And although public preference for air travel slipped back a notch and preference for rail travel gained two percentage points in comparison with the respective 1946 percentages, the airlines more than held their own with those who have traveled by air recently and with young people.

In response to the question, "If the fares were equal, which way would you prefer to travel—by airplane or by railroad?" 51% of those questioned in this year's poll favored the railroads, as against 49% in 1946, 55% in 1945, 55% in 1944 and 61% in 1943.

"Despite this gain in favor with the public as a whole," said the report, "the railroads have not improved their standing with the two groups who are most enthusiastic about air travel—young people and persons who have made a commercial flight recently."

Of those under 30 years of age questioned, 65% preferred air to rail travel as against 62% in 1946, and of those who had traveled on a commercial airline recently, 81% preferred air to rail travel, as against 79% in 1946. Preference for rail travel, the report showed, was strongest among people over 45 (62% favored rail) and Southerners (66%).

Pointing out that 60% of those questioned said railroads were safer than airplanes, the report said:

"People regard the relative safety of railroads as a strong point in their favor."

It said the railroads also were rated better than the airlines on depend-

ability, and that another strong appeal of railroad travel is "the spaciousness of trains and the freedom of movement that is possible."

Speed, the report showed, is viewed as the chief advantage of plane travel and the feature appealing most to the public. On the question of comparative comfort of rail versus train travel, those interviewed split about even.

But as regards the quality of personal service on airlines, as compared with railroads, the vote was overwhelmingly in favor of air travel, especially among those who had recent contact with airline employees.

On the other hand, the report said, "more courtesy and a generally better grade of service (by railroads) are the chief improvements the public would like to see." It said 22% of those interviewed had heard recent complaints about railroad passenger service, with a relatively high percentage of the complaints touching on poor equipment and failure to meet schedules. Frequent train travelers were found more critical than the general public, 47% of them saying the railroads could give better service, as compared with 41% last year.

"The responsibility for unsatisfactory passenger service is increasingly being placed directly on railroad management," the report stated.

On the subject of government aid to various forms of public transportation, a higher percentage (66%) approved of government aid to airlines than approved aid to railroads, bus and truck lines and river and canal boats, and a lower percentage (22%) disapproved.

Those favoring aid to the airlines said they are a new form of transportation, representing progress, and should therefore be encouraged.

modification of United Air Lines' route structure to allow UAL to fly non-stops between the Pacific Northwest and Hawaii, by-passing its present route junction point at San Francisco.

He also suggested that CAB investigate a second study "to determine whether or not the Pacific Northwest is being subjected to discrimination because of different basis for fares between the cities of Portland and Seattle and Honolulu, compared to Los Angeles and San Francisco.

At present tariffs, Baker stated, a traveler from the Pacific Northwest, while being less than 10% farther from Honolulu than the California ports, is required to pay 20% more fare, in addition to losing time by traveling an indirect route. He suggested that inasmuch as the present S.F.-Honolulu fare is 5.5c per mile, the same fare be applied to Portland and Seattle, treating them as common fare points as S.F. and L.A. are now treated.

AA, UAL Reduce Commodity Rates to 14c Per Ton Mile

Radical reductions in freight rates are provided in new tariffs filed last week with CAB by American Airlines and United Air Lines. The proposed commodity rates generally reduce present tariffs of approximately 21c a ton mile to about 14c.

These reductions are said to represent a 33½% reduction from rates which previously had been cut 25% on Aug. 1. They are taken to signalize the determined fight that the certificated airlines will make to share in some of the business now going to non-certificated carriers. Tariffs for both carriers are to become effective Oct. 5, unless CAB takes adverse action prior to then.

CAB Calendar

Sept. 15—Hearing in Chicago Helicopter Service Case. (Docket 2384 et al.). 10 a. m., United States Court House Building, Jackson Boulevard and Dearborn St., Chicago. Examiner Ferdinand D. Moran.

Sept. 15—Hearing on application of Southwest Airways Company for Modification of operating restriction in its certificate for Route 76. (Docket 2861). 10 a. m., e.d.s.t., Conference Room "C," Departmental Auditorium. Examiner Frank A. Law, Jr.

Sept. 30—Oral argument in Northeast Airlines Mail Rate Case. (Dockets 1932 and 1890). 10 a. m., e.d.s.t., Room 5042, Commerce Building.

Oct. 7—Hearing on applications proposing additional service in Florida. (Docket 1668 et al.) Postponed from Aug. 12. Examiner F. Merritt Ruhlen. Tentative.

Oct. 15—Hearing on applications proposing Additional California-Nevada Service. (Docket 2019 et al.) Tentative.

Oct. 20—Hearing on Pan American Airways' Latin American Routes Consolidation Case. (Docket 2811). Examiner Ralph L. Wiser.

Oct. 20—Hearing on applications of Resort Airlines, Inc., et al., for authority to operate scheduled Air Tours or "Sky Cruises." (Docket 2377 et al.) Examiner James S. Keith.

Nov. 15—Hearing on the board's investigation of the Consolidated Air Freight Tariff. (Docket 2719). Examiner Herbert E. Bryan.

Nov. 24—Hearing on Mid-Continent Airlines' Route 26 Amendment Case. (Docket 1956). Tentative. Postponed from Sept. 29.

Dec. 8—Hearing on Mid-Continent Airlines' proposed Minot-Regina extension. (Docket 628). Postponed at MCA's request from Sept. 8.

CAB Actions

Aug. 18—Order opening investigation of Official Airfreight Tariff No. 1, C.A.B. No. 2. (Dockets 3042 and 3087).

Aug. 21—Order adjusting mail pay received by Florida Airways for operations over local Route 75. (Docket 2801).

Aug. 25—Order instituting investigation of reduced fare tariffs filed by four U. S. and one foreign airline. (Docket 3085).

Aug. 26—Decision approving sale of Western Air Lines Denver-Los Angeles Route 68 to United Air Lines. (Docket 2839).

Aug. 28—Foreign air carrier permit granted to Empresa de Transportes Aerovias Brasil, S. A., by Board decision. (Docket 2868).

Sept. 4—Board order approving the 18-carrier Airlines Negotiating Conference Agreements. (Docket 2803; Agreements C.A.B. Nos. 738 and 739).

Examiner Rejects New Honolulu Routes

No need for any new route between Seattle, Portland, and Honolulu as proposed by Matson Navigation Co., Northwest Airlines, Pan American Airways, and Transocean Air Lines, has been found by CAB Examiner Warren E. Baker. The adverse report was based primarily on low traffic potentials and high probable cost to the government.

Present cost levels, Baker found, indicate a mail need of three-fourths to one and one-fourth million dollars per year, even if all of the estimated potential traffic of 6,000-6,600 passengers used the direct service instead of flying to Honolulu via San Francisco. As an alternative to a new competing service, and one which would avoid excessive cost to the government, the examiner asked CAB to investigate whether public convenience and necessity require

U. S. Airlines Rank Among Top 15 in Passenger Miles

Eleven of the world's 15 largest airlines last year, on the basis of revenue passenger miles flown, were American companies, according to a survey made by the research staff of *World Aviation Annual*.

Significantly, the first seven positions were held by U. S. carriers, whereas a similar survey for the year 1938 showed the German airline, Deutsche Lufthansa, in third place, outranked only by American Airlines and United Air Lines.

Only eight American companies were among the world's top 15 in 1938, Delta, Western and National entering the 1946 list and Deutsche Lufthansa, Ala Littoria, and Sabena Belgian Airlines dropping out.

Surprisingly, Australian National moved up from 12th place in 1938 to 9th place last year, ranking just behind British Overseas Airways Corporation as the second largest foreign carrier on the list. Only other non-U. S. airlines on the list are KLM, which ranked 10th, and Air France, in the 13th spot.

American, United, TWA, Eastern and Pan American ranked in the same relative order last year as in 1938, although last year they ranked 1st, 2nd, 3rd, 4th and 5th, whereas in 1938 their respective ranks were 1st, 2nd, 4th, 5th and 6th. Northwest and PCA moved up from the 11th and 13th spots in 1938 to 6th and 7th places last year.

The 15 carriers last year performed 7,265,076,000 revenue passenger miles, or nearly a tenfold increase over the 743,024,000 performed by the 15 largest carriers in 1938. American and United each per-

formed more revenue passenger miles last year than the four largest foreign carriers combined.

Ratings of the respective carriers are shown in the following table:

		1946	Rev. Pass. Miles* (000 omitted)
Rank	Company		
1	American Airlines	1,307,909**	
2	United Air Lines	1,067,938	
3	TWA	852,998	
4	Eastern Air Lines	805,433	
5	Pan American Airways ..	775,467	
6	Northwest Airlines	385,858	
7	PCA	373,331	
8	BOAC	286,545	
9	Australian National	216,181	
10	KLM	214,994	
11	Braniff Airways	212,922	
12	Delta Air Lines	209,583	
13	Air France	200,675	
14	Western Air Lines	191,660	
15	National Airlines	173,626	
		1938	
1	American Airlines	140,869	
2	United Air Lines	108,675	
3	Deutsche Lufthansa	78,205	
4	TWA	72,310	
5	Eastern Air Lines	71,326	
6	Pan American Airways ..	44,219	
7	Imperial Airways	39,080	
8	KLM	37,337	
9	Ala Littoria (1937)	37,005	
10	Air France	34,724	
11	Northwest Airlines	21,153	
12	Australian National	17,193	
13	PCA	15,679	
14	Braniff Airways	13,504	
15	Sabena	11,145	

* Data for Deutsche Lufthansa, Imperial Airways and Ala Littoria may include some non-revenue traffic.

** Excludes 114,284,000 revenue passenger-miles flown by American Overseas Airlines Inc.

Anti-Fog Landing Lights Replace FIDO at London

New anti-fog landing lights said to be 500 times more powerful than any ground level lights previously used will replace the FIDO fog-dispersing system at London airport about Nov. 1, according to the *London Times*, which said it had become necessary to discard FIDO because of the amount of fuel it consumes.

Three sets of the anti-fog lights, which will be used in conjunction with radar approach aids, are being installed. One set will extend the entire length of the runway. A set of low-intensity red lights will be set in the shape of a funnel for 1,500

yards, widening at the end of the runway, and a third set, of the sodium type, will extend for an additional 900 feet and will be spaced 300 feet apart.

Chadwick, Lancaster Designer, Killed in Tudor II Crash

Roy Chadwick, designer of the war-time Lancaster bomber, and three persons from the flight test department of the A. V. Roe and Co. were killed in a test flight crash of a Tudor II transport, Aug. 23. The accident occurred shortly after take-off. Chadwick was a technical director of the firm and member of the board of directors. He was the company's chief designer for 35 years.

BEA Meal Charges

In-flight meal charges inaugurated about two months ago by British European Airways on its domestic routes and on flights between Great Britain and the Continent have been revised in response to complaints from passengers. The new charges, one of several steps taken in an effort to cut down heavy operating deficits, are as follows:

On domestic services: morning refreshments, 30c; lunch, 70c; afternoon refreshments, 30c; dinner, 70c; sandwiches, 15c; beverages, 10c. On services from Great Britain and Northern Ireland to the Continent: morning refreshments, 40c; lunch, \$1; afternoon refreshments, 40c; dinner, \$1; sandwiches, \$20c; beverages, 10c. On return services from the Continent: morning refreshments, 50c; lunch, \$1.50; afternoon refreshments, 50c; dinner, \$1.50; sandwiches, 20c; beverages, 10c. Europe's higher food prices account for the higher prices on return trips.

British Freight Plane Has 'Container' Fuselage

A new British-made freight plane with a detachable cargo container which forms part of the fuselage has been flown recently by Miles Aircraft, of Reading, England. It is called the M68.

Powered by four Blackburn Cirrus Minor engines of 100 horsepower each, the plane can carry a payload of 1,600 pounds over a still air range of 400 miles. The freight compartment, 10 feet long and 4½ feet square, can be detached from the fuselage. It is fitted with removable road wheels and a towing bar and thus can be used as a trailer for road transport to and from the airport. Boxes can be developed for such specific jobs as mail sorting, lime dusting, refrigeration compartments, etc.

Crusing speed of the M68 is 130 miles per hour, and fuel capacity is 100 Imperial gallons. Span is 50 feet, length 36 feet. The plane has tri-cycle landing gear.

KLM Transfers to Heathrow

KLM Royal Dutch Airlines has transferred its London services from Croydon Airport to the new London (Heathrow) Airport, where it is occupying a group of buildings recently constructed for its use. KLM had been using Croydon as its U. K. operational headquarters for 27 years.

ANA Operations Shifted to S. F.

Australian National Airways has shifted its U. S. base of operations from Oakland Municipal Airport to San Francisco Municipal Airport.

To Europe, Asia and Africa

Daily flights
in luxurious new
Douglas four-engined
airliners to
Glasgow, Copenhagen,
Oslo, Stockholm,
plus direct service
from Copenhagen via
Danish Air Lines (DDL),
from Oslo via
Norwegian Air Lines (DNL),
and from Stockholm via
Swedish Air Lines (ABA)
and **Swedish Intercontinental**
Airlines (SILA),
to scores of cities in
Europe, Asia and Africa.

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in **international**
air transport and
worldwide knowledge
of **customs** rules
assure **expert**
handling of
air cargo.

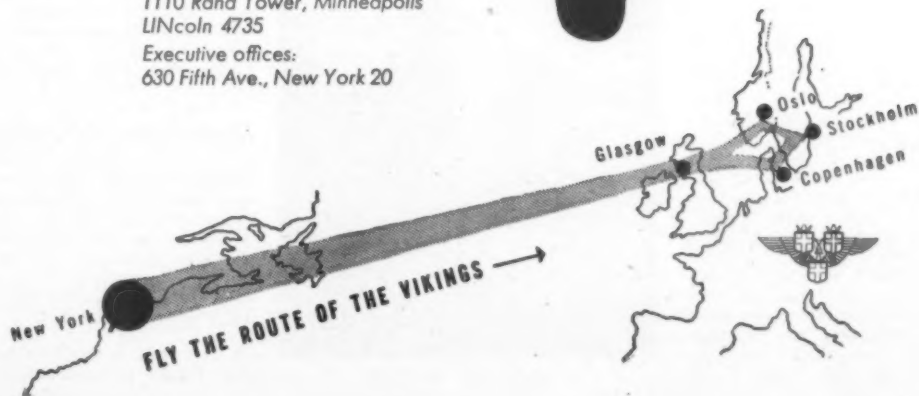
Scandinavian Airlines System
Ticket offices:

47 E. 46th St. and
6 W. 51st St., New York
ELdorado 5-6701;

105 W. Monroe St., Chicago
RANdolph 6984;

1110 Rand Tower, Minneapolis
LINcoln 4735

Executive offices:
630 Fifth Ave., New York 20



PERSONNEL

* * * *

Administrative:

Robert H. Purcell has been appointed controller and assistant treasurer of Western Air Lines. He leaves Continental Air Lines where he has served as treasurer and controller since that company's inception in 1937. He was associated with CAL's predecessor company, Varney Speed Lines, as an auditor in 1934.

J. Woodrow Thomas has been appointed director of governmental affairs department for TWA, with headquarters at Kansas City.

Lester E. Davis, who is observing his 20th anniversary with United Air Lines this month, has been appointed administrative assistant to John W. Newey, v. p.-finance and property. He has been assistant to the comptroller at UAL's Chicago headquarters.

Floyd K. McCroskey has been named personnel representative for United Air Lines at Seattle, succeeding Leslie A. Neil, who resigned to accept another position. McCroskey joined UAL in 1940 and has been acting as Neil's assistant.

David Fralley, former Associated Press staff writer, has been designated director of Washington public relations division of American Airlines. He became press representative for AA in Washington in July, 1946, and since April of this year has been acting director of the division.

Theon Wright, director of publicity for TWA since 1938, has resigned and has indicated plans for formation of an international public relations firm.

Allan A. Howell, who joined American Airlines' public relations department in January, 1946, has been named managing editor of the company's *Flagship News*, AA employe publication.

Ken Fletcher, manager of TWA's news bureau in Boston, is being transferred to establish news bureau in San Francisco. The Boston news bureau is being closed.

Edward Doherty, Jr., has been appointed to the staff of the director of public relations for American Airlines in New York. He was in operations and public relations for nine years with TWA, and more recently was manager of the western region news bureau of Capital Airlines in Chicago.

Traffic and Sales:

John E. Muhlfeld, traffic manager of Pan American Airways' Latin American Division for the past year and a half, has been named Pan Am general sales manager. He is an 11-year veteran with Pan Am and Pan American-Grace Airways, and formerly served as general traffic manager for Panagra. As sales manager, he will be administrative head of the Pan Am's U. S.



John E. Muhlfeld

sales offices and responsible for development of sales within the divisions.

Charles H. McKenney, who for four years served as assistant to the director of American Airlines' future planning board, has been appointed passenger sales manager for Northeast Airlines. He has had seven years of airline experience in New York and Boston.

Robert England, former district traffic manager for Northwest Airlines in Seattle, has been placed in charge of the company's new traffic office in San Francisco. The move is part of NWA's expanding program in connection with the agreement recently signed with American President Steamship Lines to provide round-the-world service by sea and air.

Robert L. Smith has been named cargo sales representative for American Airlines in the New York women's garment district. Smith joined AA in 1937.

William V. McTaggart, until recently



Charles H. McKenney

v.p.-traffic and sales for Latin American Cargo Airways, has joined Air Express International and will assist in promotion of company's business as international and domestic air cargo forwarders.

E. P. Hirt, formerly in the sales department of American Airlines' Contract Air Cargo Division in Chicago, has been named passenger sales director of Alaska Airlines with headquarters in Seattle. **Larry Dierks**, former CACD public relations director, has been appointed public relations director of the Alaskan carrier, also with offices in Seattle, and **A. G. Kinsman**, formerly general traffic manager in Anchorage, has been transferred to Seattle as district passenger sales manager.

Fred Spuhler, formerly regional sales manager in TWA's central region, has been designated assistant director of cargo sales-air freight, and will be in direct charge of that activity with headquarters at Kansas City.

Stanley E. Russ has taken over as cargo traffic manager, TWA's International Division, replacing James W. Mariner, now with Northwest Airlines. Russ joined TWA as a clerk in the New York traffic office in 1934, and most recently was district cargo sales manager there.

William Coulehan has been named district traffic and sales manager at El Paso, Tex., for United Air Lines and LAMSA, United's Mexican subsidiary. He joined UAL early in 1946 as a salesman at Los Angeles and has recently been stationed at Hollywood.

R. L. Fitzpatrick, traffic representative for American Airlines in Los Angeles, has been promoted to sales manager in Phoenix. He succeeds **James S. Robb**, who is taking an extended leave of absence.

Thomas H. Bateson has been designated New York regional traffic and sales manager for Northeast Airlines. He was previously manager of reservations service for the entire NEA system.

Otto van Koolberger has been appointed western regional traffic representative for KLM Royal Dutch Airlines' North American Division, with headquarters at Hollywood Roosevelt Hotel in Los Angeles.

James B. Finnin has been appointed manager of Air Express for the eastern departments of Railway Express Agency, succeeding **R. G. McLain**, now superintendent, commercial division, New York City department. Finnin was agent at La Guardia Field from 1939 to 1942.

Operations-Maintenance:

Allan A. Barrie, veteran of 17 years of executive pilot assignments in the air transportation industry, has been appointed v.p.-operations for California Eastern Airways. Barrie joined the carrier a year ago and has served as executive assistant to the president and as operations manager.

H. J. Bierds, formerly with the Contract Air Cargo Division of American Air-

AMERICAN AVIATION

lines, has been named director of operations and maintenance of Alaska Airlines. His headquarters will be at Payne Field, Everett, Wash., where the line is establishing its main maintenance base.

R. D. Nielson, regional stores manager for United Air Lines at Cheyenne, has been transferred to UAL's San Francisco maintenance base as assistant to the regional stores manager. He began his aviation career with the air mail service at Salt Lake City and has been with UAL for 16 years.

Walter T. Johnson has resigned as superintendent of industrial safety, operations analysis division, and is succeeded by **John A. O'Donnell**. O'Donnell joined AA in January, 1944, and has worked with Johnson in developing the company's industrial safety activities.

• • • • •

Roger Lewis, assistant general sales manager of Lockheed Aircraft Corp. since 1944, has resigned from the company. He had been with Lockheed for 13 years and during the war was director of purchases.

P. L. Porter, part sales manager for Douglas Aircraft Co. since 1935, has resigned to enter a private aviation business. He had been with the company for 22 years. **W. S. Fryer**, a veteran of 12 years with Douglas, has taken over Porter's duties.

Julian T. Cromelin, formerly attached to the CAB's general counsel's staff, has joined the office of the solicitor of the Post Office Dept. His duties will deal chiefly with participation in economic proceedings before CAB.

Walter Prokosch, formerly with Eastern Air Lines with responsibility for airport planning and engineering, has been made a v. p. of the industrial engineering and management consulting firm of George S. Armstrong & Co., Inc., which has announced expansion into airport planning field.

Alfred Marchev, formerly president and chairman of the board of Republic Aviation Corp., has been elected president and general manager of Aircraft Screw Products, Inc., Long Island, N. Y.

Gordon C. Sleeper, former assistant to the president of Republic Aviation Corp., has been named general manager of the aviation department of Frank B. Hall & Co., marine and general insurance brokers of New York.

Charles E. Durham, recently traffic manager for Slick Airways, and **Willard R. Lobdell**, formerly operations engineer and cost analyst for Slick, are new associate members of the aviation consulting firm of Drew, Peters, Passen & McDonald, which has offices in Buffalo and Washington.

William G. Fuller, formerly airport manager at Fort Worth, Tex., and factory manager and v.p. of Globe Aircraft Co., has been appointed chief of the airports management division in the CAA Office of Airports.

Mariboro K. Downes, former CAA district airport engineer, has been named chief of the program performance division of CAA's Office of Airports.

September 15, 1947

Airline Commentary

By ERIC BRAMLEY

WE'VE JUST SPENT an interesting time leafing through the *Aircraft Year Book* for 1919, and we ran across some interesting passages on the future of aviation . . . It says here, in this 28-year-old volume, that businessmen will soon be able to fly from New York to Chicago "in eight or nine hours and the traveler will be able to realize a new experience. It is not a difficult thing to visualize that flight. You will sit in a comfortable limousine-bodied car, traveling at high speed without the slightest sense of jolt or vibration. You flash through sunshine or whirl through storm with never-failing power. You are no part of the earth upon which you can look with the most detached and critical sense of superiority. You are not shunted and shuffled about in railway sheds; you are not annoyed by the dirt or noise. You glide down from the sky into a meadow, long enough to wonder at the familiarity of the earth and then you take to the air again. You arrive at your destination hours sooner than has ever before been possible. A nice enough picture and absolutely certain of realization" . . . Next time you have a discontented passenger, whip this out and read it to him . . .

Girls, the accompanying picture shows what can happen to you if you go for the current long skirt trend . . . These are American Airlines'



hostesses standing in front of a Curtiss Condor way back there in 1933 . . . American put the picture out to illustrate a story in which it was announced that the company's hostesses don't think much of the current trend (bless 'em) and will wear uniform skirts that fall no lower than two inches below the knee . . . American says it has had no complaints from passengers . . .

Did you ever see a letter with \$11,500 worth of postage on it? . . . One arrived in our office the other day with 23 \$500 stamps on it . . . Only trouble was that it was from China and the 11,500 Chinese dollars are worth something

less than one good American buck . . . The letter came air mail, and took six days to get from China to Washington . . .

We have said a few things in the past about the way some airlines throw passengers' baggage around . . . We have now seen some figures which show that in a recent 12 months' period, one airline paid out \$10,466 in damaged baggage claims, another \$12,110, and still another \$26,183 . . . With everyone trying to cut expenses, here's a pile of money being poured down the drain . . . It could be saved with just a little more care on the part of employees . . .

TWA sure has been trying hard to get its trips out on time . . . In fact, it has been trying so hard that Dave Renning, Chicago cargo handler, who was loading baggage, found himself locked aboard a recent Chicago-New York flight . . . Chicago missed him, radioed the flight and confirmed that he was aboard . . . So Renning took a quick flight to New York and back . . . You've got to be on your toes when working a trip these days or you may find yourself taking an unexpected flight . . .

Washington National Airport has installed 23 parking meters around the circle in front of the terminal building . . . And the management isn't fooling—the meters work 24 hours a day . . . We understand that one of the reasons for the installation was that people were gumming things up by parking their cars in the circle and then running off to Europe or some other distant spot for a week or so . . . That's a pretty good example of the growth of air transportation . . .



HARRY HUKING
July 1, 1927



HENRY THOMAS
July 1, 1927



R. L. DOBIE
April 14, 1926



NUGENT BOUSMAN
July 1, 1927



GORDON WOOD
July 1, 1927



E. M. ROSIER
July 1, 1927



H. C. LARSEN
August 3, 1926



HAZEL SMITH
February 1, 1927



C. T. WRIGHTSON
June 16, 1925



R. J. SEDLACEK
July 1, 1927



R. GEORGE DARKE
July 1, 1927



ROBERT J. BURNS
July 1, 1927



PETER BERGER
June 1, 1926



CHARLES E. FERRY
June 15, 1927



C. R. BOWMAN
September 18, 1926



ROY S. BUESS
August 4, 1927



H. M. BEERY
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July 1, 1927



R. T. FRENG
June 16, 1927



MAX HENNE
May 16, 1927



E. S. MARONEY
May 1, 1926



JAMES GOWANS
July 13, 1927



R. C. WRIGHT
June 10, 1927



SEELY V. HALL
January 7, 1926



BERNICE BARTHOLOMEW
March 1, 1926



C. V. O'CALLAGHAN
October 15, 1926



R. L. WAGNER
July 1, 1927



W. D. KNOWLES
May 7, 1927



HENRY MOSSMAN
July 1, 1927



PIERCE S. ELSASSNER
August 16, 1927



E. L. REMELIN
April 8, 1927



HUMBERT COSTA
May 11, 1927



E. M. GORDON
June 27, 1927



RALPH JOHNSON
July 1, 1927



DONALD W. TYLER
January 7, 1927



CLAUDE WALL
July 1, 1927



JACK STEVENSON
June 23, 1926



A. L. EVERETT
April 15, 1926

Each of these men and women has been with United Air Lines for at least 20 years—together they have contributed more than 1000 years of continuous service! These 54 employees represent those with 20 years or more service as of August 16, 1947. There are 407 other employees with 15 to 20 years of service, and 575 with 10 to 15 years. Joining United when commercially-scheduled passenger-mail flying was in its infancy, their extensive background has

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July 1, 1927



GEORGE GROGAN
July 1, 1926



R. D. EDWARDS
July 18, 1927



E. HAMILTON LEE
July 1, 1927



DON STOMBAUGH
July 1, 1927



W. P. HOARE
June 15, 1927



E. P. LOTT
November 1, 1925



O. C. RICHERSON
June 27, 1927



C. A. SLUDER
July 1, 1927



SAMUEL P. MARTIN
August 1, 1927

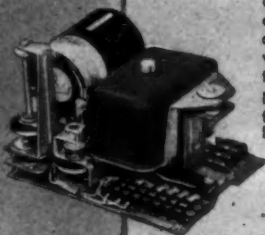


CURTIS BARKES
November 15, 1925



H. F. SALISBURY
July 11, 1927

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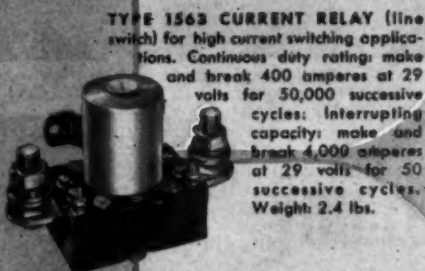
TYPE 1539 CONTROL PANEL for automatic voltage regulation of generator and automatic remote control of line switch. Includes carbon pile voltage regulator of diaphragm type to prevent harmful voltage rise as pile wears; all functional units compactly mounted to base by two quick locking fasteners. Weight: 6 lbs.



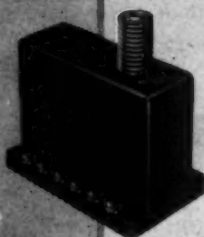
TYPE 1547 GENERATOR for nominal 300 ampere output. Designed for equalizer circuit operation in parallel generator systems; duplex brushes individually spring loaded; forced cooling through front head air spout. Weight: 64 lbs.

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TYPE 1563 CURRENT RELAY (line switch) for high current switching applications. Continuous duty rating: make and break 400 amperes at 29 volts for 50,000 successive cycles; interrupting capacity: make and break 4,000 amperes at 29 volts for 50 successive cycles. Weight: 2.4 lbs.



TYPE 1623 OVERVOLTAGE PROTECTOR for automatically disconnecting a faulty generator and associated control equipment without cutting out parallel generating equipment. Magnetic blowout feature prevents arcing of contacts; hermetically sealed, nitrogen charged case. Functions in 1/25 of a second. Weight: 1.8 lbs.

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TRADEMARK

AIA, ATA Oppose CAA's Plan Standardizing Airports

Sharp attacks upon the Civil Aeronautics Administration's proposal that airport runway specifications be standardized and that new transport types be designed to conform to them are forecast when a public hearing on the proposal is held in Washington Sept. 18-19.

Spearheading the attack will be the Aircraft Industries Association, representing the manufacturers of transport planes, and the Air Transport Association, comprising the airlines who fly them.

Both have registered their opposition to the proposal in letters to T. P. Wright, Civil Aeronautics Administrator, and both are prepared to explain their views in detail at the public hearing, which CAA decided to call when the proposal drew considerable comment and criticism, most of it of an adverse nature.

The proposal in question was drafted by CAA "to insure, in so far as is possible and appropriate, that existing and future airports will not be outmoded by new aircraft designed and built without due consideration to the strength and length of existing airport runways." (*American Aviation*, June 1, p. 30.) To that end, CAA would set up standard maximum runway lengths, widths and strengths for four different types of airline use—feeder, local, express and international.

Unsound, Unwise, Unsafe

Oliver P. Echols, president of AIA, said the proposal would have "such far-reaching adverse effects upon the aviation industry and air transportation" that his organization felt moved to register "strenuous objections." He termed it "technically unsound, economically unwise and nationally unsafe."

"As aircraft designers and manufacturers," he said, "we predict that any arbitrary limitation of airport lengths and strengths within this country will seriously restrict the logical development of the airplane and of the airline system, will make it difficult to maintain our present world leadership . . . and would have the inevitable result of standardizing aircraft size and performance, so that other countries would soon be able to produce the 'standard' line of airplanes at lower costs due to the lower cost of labor abroad."

It is AIA's feeling, Echols con-

tinued, that a study should be made, possibly by some independent organization such as the Harvard Business School or the Brookings Institute, as a basis for establishing a rational program of airport development, taking into account present and potential traffic-generating abilities of the various municipalities. Primary object would be to determine a community's potential ability to support an airport trafficwise, rather than its ability to pay for one.

He suggested also that a related study be made by some qualified organization to show the effect on runway dimensions of such factors as turbo-propeller engines, turbo-jet engines, airplane size, and cruising speed.

"It is well known," the AIA official said, "that more efficient airplanes demand higher wing loadings, higher power loadings, higher pressure tires and longer runways, especially in the case of turbo-prop and turbo-jet planes. Hence it is important to safety that adequate runways be built to keep pace with the inevitable future use of the gas turbine."

"If air transportation is to continue to develop in the dynamic way it has in the past, all components of its operations—the aircraft, the ground facilities, and the communications systems—must develop along mutually consistent courses," Echols concluded. "To freeze any one com-

ponent would seriously hamper future progress and reduce the benefits of this service which is so vital to our country."

Milton W. Arnold, ATA vice president of operations and engineering, said the basic reason for promulgation of the proposal is to give assurance to cities that their airports will not become obsolete with the advancement in design and construction of transport aircraft. He declared flatly that "aviation has not yet advanced to the point where any such assurance can logically be given." He said analysis of the CAA proposal will prove that:

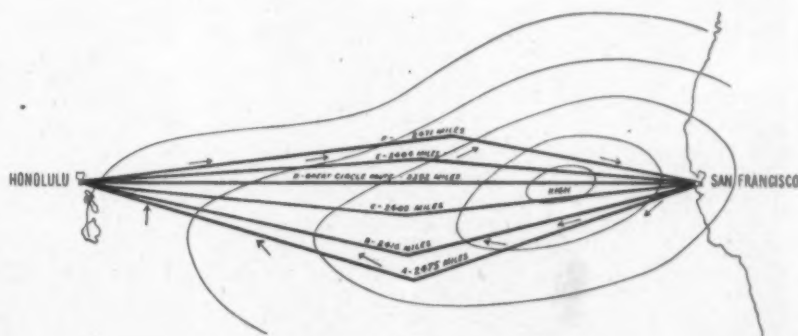
(a) The proposal, rather than protecting the investment of communities served by airlines, creates instead a false assurance and promise which cannot be met due to the ever-changing phases of commercial aviation as we know it today. Furthermore, it would tend to stagnate not only the growth of commercial aviation, but the aeronautical growth and development of the very communities it is designed to aid.

(b) It is technically unsound.

(c) It is detrimental to current concepts of national defense needs.

(d) It is incompatible with the position taken and consistently maintained by U. S. delegations to PICA and ICAO conferences.

Arnold said a more realistic approach to the problem of airport requirements would be to concentrate on establishing minimum specifications for each class of airports, estimating future developments by taking into consideration the traffic potential at any one city, the type of service to be rendered, the types of airplanes now being used and likely to be used in the near future, and the frequency of service.



Riding the Winds—United Air Lines pilot flying between San Francisco and Honolulu ride the winds through a "pressure pattern" type of route selection. Above map shows a typical high pressure area picture at 10,000 feet. A pilot could select either routes A, B, or C, preferably A, to take full advantage of the prevailing winds for a westbound trip, in preference to D, the great circle route and shortest distance. Eastbound, the pilot could select either D, E, or F, preferably F, to utilize the winds around the high pressure area which move in a clockwise direction in the northern hemisphere.

Passenger Space Traded For Cargo in PAA Planes

A removable cargo compartment which can be quickly installed in the forward end of the passenger cabin of a plane to provide additional cargo space when there is less than a full load of passengers has been adopted by Pan American Airways for use on its Latin American Division.

The flexible interior arrangement made possible by this device adds as much as 4,000 pounds of cargo capacity to each four-engined passenger plane, and a total of more than 125,000 pounds of cargo capacity will have been added upon completion of modification of the 32 DC-4's flying Pan Am's Latin American routes.

Designed to utilize unused cabin space for light cargo, the "removable bulkhead" blocks off the first two rows of seats in the forward part of the cabin. A curtain separates this area from the remainder of the passenger cabin. An extra panel of "seat belt" lights is installed in front of the curtain.

Regulation cargo netting surrounding the eight blocked-off seats is held in place by light stanchions from floor to ceiling, and protector pads are hung on the cabin walls to prevent damage from the cargo. The netting, stanchions and pads, weighing less than 200 pounds, are carried in the aft cargo compartment when not in use.

Seats can be left in place and light cargo placed on top of them, or they can be removed from one side of the aisle and stored on top of seats on the other side to provide a larger space for bulky cargo on one side of the compartment. When the cabin load is 44 passengers or less, the entire arrangement can be installed in 10 to

ALPA Sees Sinister Plot at Ardmore

American Airlines' Ardmore screening program is attacked in the current issue of *The Air Line Pilot*, official publication of The Air Line Pilots Association (AFL), as a "sunbaked experiment in pilot harassment."

Describing a series of hearings held recently by the American Airlines Pilots System Board of Adjustment to protest dismissal of eight pilots, four of whom allegedly were "lopped from the American Airlines payrolls under the weakest of pretexts and the flimsiest of excuses," the ALPA publication said:

"While upgrading and transition training schools have been accepted as part of the airline training picture, American Airlines alone has pioneered the operation of a program devoted exclusively to downgrading, and in which a man has no progressive alternative but can only stand still or go down, the latter at Ardmore meaning 'out.'"

American Airlines countered with the assertion that there was nothing sinister about the Ardmore program, that it merely provided for the training, retraining and checking out of pilots.

"Naturally, some of the pilots fail to meet the standard requirements," said an airline representative. "Someone has to judge who is fit and who is not fit to fly, and that happens to be management, charged with the responsibility of operating the airline. If someone has been unjustly treated, there are grievance procedures which can be resorted to."

20 minutes by ground crews at any intermediate station.

Pilots Oppose Chicago Tangential Runway Plan

Assailing as "horse and buggy planning" the proposed development of Chicago's new Douglas Airport using a tangential runway layout plan, the Air Line Pilots Association (AFL) is advocating that a parallel runway plan be used instead.

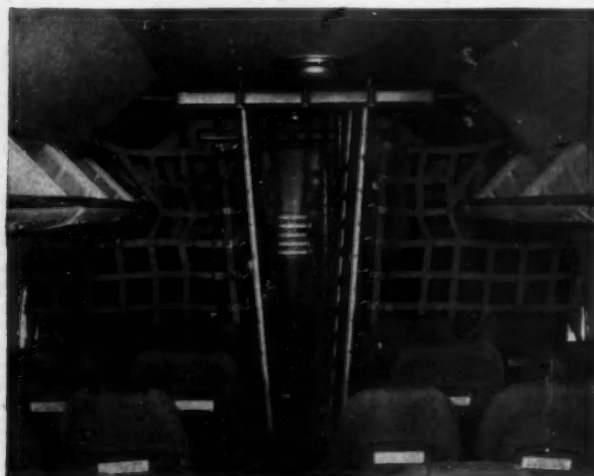
David L. Behncke, spokesman for the pilots, said they are very much against the radial cross-traffic spoke design, commonly referred to as the tangential runway plan, and have judged it unsafe and incapable of handling the air traffic claims made for it. The pilots are particularly alarmed, he said, at the plans to use 7,000-foot runways and believe the necessary margin of safety lies in runways no less than 7,500 feet in length and capable of extension to 10,000 feet.

He said ALPA favors a parallel runway plan capable of being expanded to 22 runways, 12 more than provided for in the tangential plan and also of greater length, while using the same ground area. The parallel plan also will expedite flow of traffic, result in less congestion, he said.

Denver Becomes Operating Headquarters for United

Denver is to become the main operating headquarters for United Air Lines, superseding the operating department now centered at Chicago, with subdivisions in several other cities.

The Denver headquarters will be under the active supervision of J. A. Herlihy, UAL vice president in charge of operations.



Versatile Compartment—Pan American Airways' removable compartment being installed in all four-engined Clippers of the Latin American fleet utilizes unused passenger space to gain an additional 4,000 pounds cargo capacity. As shown on left, light stanchions and cargo netting surrounding the first two rows of seats in the forward part comprise



the compartment. Curtain separates it from remainder of passenger cabin, as indicated on the right. Entire arrangement can be installed or removed in 10-20 minutes by ground crews at any intermediate station where extra cargo space is needed and there is less than a full load of passengers.

30 Hour Check

By DAVID SHAW

SINCE NOT many industry people were on hand to watch the National Air Races this year, we'd like to report that one of the most hair-raising incidents at the show (not on the program and not expected by the spectators or the participants) involved an airline plane. It also came sickeningly close to producing one of the blackest days in aviation and the end of the air races.

It happened that the runway in use on the first day of the show ran diagonally toward the far end of the stands, and thus toward the outer limit of the area in which the exhibition flying was being done. It further happened that a scheduled DC-4 flight went out just at the time a drunk act in a Cub was going on for what was left of the rained-out crowd. As the Cub wobbled across in front of the stands and out toward the end of the runway, the DC-4 got its wheels up and started a normal climb-out. The Cub kept going toward the end of the runway, climbing, erratically, at about the same rate as the DC-4.

The DC-4 pilot, aware that the show was going on and obviously on his toes, saw the Cub coming at him and pulled back on the yoke. As his rate of climb increased, so did the Cub's. He pulled back into a steeper climb. So did the Cub.

About this time the DC-4 pilot, joined by everyone in the stands who happened to be watching, stopped, assuming that the Cub pilot would see him and turn away. We can't guarantee that he bent the throttles or the controls, but if he didn't it was only because they were made of tough materials.

Perhaps, in the course of testing the airplane, a DC-4 has been placed in a climb as steep as that one, but never by an airline pilot with a load aboard, and never so close to the ground.

The fellow had a nice touch. He stood it on its tail and held it there until it didn't seem possible that it would hold it any longer. Then he nosed it forward and went his way, the Cub safely below him and the people in the control tower probably turning down the volume on their receiver. People in the stands were very quiet.

The AAF, along with its guided missiles and push-button transports and other developments which may reduce the work of Selective Service, is pushing a program to develop airborne facsimile equipment, something like television, with which an aircraft in flight can receive printed information, weather maps, pictures and similar visual information. The chief air communications officer of the AAF, Brig. Gen. F. L. Ankenbrandt, has indicated that the requirements for various devices under development are stringent; high-speed operation to keep pace with aircraft, UHF or micro-wave operation for elimination of atmospheric distortion; multi-purpose application to permit maximum communication with minimum equipment; ruggedness to permit use of the same equipment at sea level or 50,000 feet and in the tropics or the polar areas; and automatic (selector switch) operation to eliminate delay.

September 15, 1947

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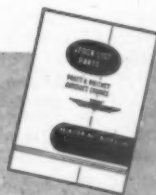
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Engineers Find High Altitude Flying Fast, Safe, Economical

By FRED HUNTER

High altitude operation will become commonplace due to the advantages it has to offer in additional speed, lower costs, increased comfort, and freedom from a large majority of adverse weather conditions, and pressurized cabins ultimately will be required for all transport airplanes.

These were conclusions reached at the three-day High Altitude Flying Symposium held late last month in Seattle under the auspices of Boeing Aircraft Co.

Although both military and commercial high altitude flying were covered exhaustively in the topic discussions, the emphasis was on the transport plane and a large majority of those attending were representatives of the airlines. Nearly 300 registered for the event, including groups from six foreign airlines.

The idea for the symposium originated with Wellwood E. Beall, Boeing vice president for engineering and sales, who presided over the event and keynoted the discussions by summing up the new role high altitude flight will play both for the nation and the world.

"For the airplane passenger, high altitude flight means a faster, smoother, more comfortable trip," he said. "For the airplane operator, it means a more economic and flexible operation. Research and development indicate that fast, safe and economic flying at altitudes up to 30,000 feet is now practicable."

Fourteen technical papers covering the various aspects of power plant, aerodynamic, structural and pressurization design were presented during the symposium which was climaxed by two demonstration flights to just short of 30,000 feet in an Army Air Forces YC-97 Stratofreighter piloted by Col. Albert Boyd, chief of flight test at Wright Field.

Hold Regulations Down

With a number of Civil Aeronautics Administration representatives in the audience, M. F. Vanik, Boeing airworthiness engineer, delivered one of the more significant papers in which he cautioned that new federal requirements in high altitude design must be carefully considered to prevent restriction in the development of improved service to the air traveling public.

"To realize the full advantages to be obtained with high altitude airplane design, regulations must be kept to a minimum, and those that

are considered necessary must be kept general and flexible to allow achievement of the best realization of balanced design and efficiency."

For illustration, he singled out the pending proposal that complete oxygen equipment should be supplied for all passengers for the entire duration of a flight above a given altitude in anticipation of a sudden decompression failure of the airplane.

"Instead of absorbing this tremendous penalty, it is more feasible to provide for design in which decompression failures are non-existent," he declared. "Requirements for complete oxygen systems can impose a penalty which could mark the difference between profitable and non-profitable operation with the result that the air traveling public would be deprived of the benefits of modern aircraft equipment to which they are entitled."

Three medical specialists, Col. E. J. Kendricks, chief of the Aero Medical Laboratory of the Air Materiel Command; Dr. W. R. Lovelace II, medical director of TWA, and Col. A. D. Tuttle, medical director of United Air Lines, discussed the physiological phases of flying in the sub-stratosphere and the comfort advantages of pressurization. Col. Tuttle especially emphasized the great need of gearing airline operations to the comfort of the passenger from a dollars and cents standpoint.

40,000-50,000 for Military

An entirely appropriate altitude margin for flight at 25,000-foot altitudes is provided to the airlines by the background and experience of military craft at and above 35,000 feet, N. D. Showalter, chief of flight test for Boeing, told the symposium. For future military flights, he predicted 40,000 to 50,000 feet.

Showalter said Boeing flight crews have spent more than 1,300 hours above 25,000 feet and have conducted more flying at 40,000 feet or higher than "all the rest of man collectively." This program has been carried on during the last five years in conjunction with the Army Air Forces.

In their papers, Boeing engineers stressed the increased importance of reliability of design and detail design considerations in building planes for higher flight.

G. B. Schairer, Boeing aerodynamics and power plant staff engineer, forecast use of the gas turbine engine for sub-stratosphere flight in the future. New propulsion methods,

he said, will offer substantial increases in range along with speed.

Power plant installations currently are reliable for operations up to 30,000 feet, G. W. Newton, Boeing power plant unit chief, said. Weight and complications must be added for operations above this altitude with prohibitive design changes to the reciprocating power plant above 40,000 feet.

The electrical engineer encounters a whole new gamut of problems in the higher altitudes and is especially plagued by the difficulty of duplicating high atmospheric environment in the laboratory. Dr. Karl Martinez, chief of Boeing's acoustics-electrical unit, said that eventually it may be necessary to resort to refrigeration for cooling of rotating electrical components because of the lack of cooling air in the upper reaches.

ILS Approved for 6 Airlines at 28 Fields

The CAA-sponsored Instrument Landing System came back into the spotlight this month as the Air Transport Association launched a 5,700-mile survey flight to test the operational status of the system at the airports where it has been installed.

The ATA survey, due to end this week, is similar to the one conducted last February, when several discrepancies were found in the functioning of ILS equipment at the 19 stations where it was then in operation. It is being made in the ATA's DC-3 flying laboratory, under the direction of Charles A. MacAtee, ATA research and test pilot, and W. E. Rhoades, director of ATA's air navigation—traffic control division.

Meanwhile, CAA has certified use of ILS at 28 airports by six carriers. Braniff Airways has met the requirements for using ILS at 10 airports, American at 13, Continental at eight, Eastern at seven, Chicago & Southern at six, and Delta at one—Atlanta. This makes a total of 45, but most of the certified airports are served by more than one carrier.

At most of the approved airports, the CAA has lowered the minimums to 300-foot ceilings and $\frac{3}{4}$ -mile visibility when ILS is used, in either day or night operations, although in a few instances the minimums have not been reduced to these levels because of certain obstacles.

All told, ILS has been installed, commissioned and put into operation at 51 airports, but at a good many of these fields no airline has yet requested permission to use it. Plans of CAA call for 14 more installations to be completed and commissioned by Nov. 1, start of the bad weather flying season.

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Pan Am Syria Accident Laid to Engine Failure

CAB's preliminary report on Pan American Airways' accident June 18 near Mayadine, Syria, indicates that the Model 049 Constellation crashed during a forced night landing after double engine failure in flight. Examination at the scene of the accident showed that an exhaust rocker arm on the No. 1 engine had broken in flight, and that the pilot had cut his engine and feathered the propeller, continuing the trip on three engines.

After cutting the No. 1 engine, it was discovered that the remaining three engines were overheating at the altitude (18,500 ft.) and airspeed being maintained. Power was reduced and the flight gradually descended, but the overheating apparently continued. About three hours after the No. 1 engine was cut, the No. 2 caught fire. A tear-down inspection of the No. 2 engine showed that the thrust bearing had failed under power.

Following the second engine failure, the pilot attempted a wheels-up landing in the desert. The plane was demolished by impact and subsequent fire. The plane, which had been operated a total of 2,686 hours since delivery, was equipped with four Wright 745-C18-BA3 engines. Final report on the accident will be issued by CAB's Safety Bureau later.

Temperature Accountability Date Extended to Oct. 15

The Civil Aeronautics Board has extended until Oct. 15 the effective date of the "temperature accountability" ruling which was to have become effective Sept. 6. The airlines asked this extension so as to make it possible for them to present the need for such an emergency regulation to the International Civil Aviation Organization in Paris Sept. 23. Efforts will be made to make this regulation standard in international operations to remove the competitive disadvantage which U. S. lines would suffer if they alone operated under the regulation.

National Reorganizes Security And Fire Prevention Division

National Airlines is reorganizing and enlarging its security and fire prevention division and has named James H. Hart as security and fire prevention engineer.

Hart was fire prevention and plant protection manager at the Miami Air Depot, Pratt General Hospital, and all Army establishments in the Greater Miami area during the war. Prior to that he was administrative engineer for Army Ordnance at Chicago and was connected for 15 years with the Cadillac Motor Car Co.

SAFETY SLANTS

THE INJURY rate among aircraft cleaners has risen rapidly with the trend to larger aircraft. Efforts to devise cleaning work docks and stands have not worked out too well, but at last there is hope for the airlines' Rocky Mountain goats—those intrepid souls who keep modern airliners slick and shiny.

Northwest Airlines has installed an overhead trolley system and provided safety belts for its aircraft cleaners. In itself this is not entirely new. American Overseas has used this method at its La Guardia Field base for some time, while both American Airlines and TWA used lifelines and safety belts to protect men stripping camouflage on Army planes during the war. Northwest, however, has given the lifeline a new twist. Recalling that Army airplanes whisked heavy gliders off the ground by using nylon tow ropes, they bought some of this rope from war surplus. The nylon stretches and acts as a shock absorber when a load is suddenly applied such as might be if a cleaner should fall. Test drops have shown that the arrangement works perfectly.

Your local CAA office has a number of educational films that you can borrow at no cost but the return postage: 16 mm. sound and silent films as well as 35 mm. film strips are available. Two Navy Training films so available are "Crash Fire Rescue" and "Safety in Air Stations." Both are excellent.

If you expect to be in Chicago during the first week in October make an effort to get to the 35th National Safety Council Congress and Exposition. The Aircraft Manufacturing Sessions will be held at the Stevens Hotel on Monday and Tuesday, Oct. 6 and 7, at 2:00 p.m. Monday's session will be devoted to "Safety Through Preventive Maintenance" while a highlight of the Tuesday meeting will be a report on "Research and Development of Aircraft in the AAF" by Maj. Gen. L. C. Craigie, chief, engineering division, Wright Field. Richard Wilkins, chief safety engineer for North American at LA is general chairman.

Also at the Stevens at 2:00 p.m. on Wednesday, Oct. 8, the Air Transport meeting will feature Rep. Carl Hinshaw whose topic is "Airline Safety and Congress." Papers on "Pressurized Cabin Hazards" and "Responsibilities of CAB, CAA, Airlines and Pilots in Airline Accidents" are also scheduled. The Thursday afternoon session will include papers on "Airport Safety," "Passenger Safety" and "Safety in Handling Cargo." Walter T. Johnson of the Airlines Terminal Corporation will preside.

Approved type safety cans should always be used when it is necessary to handle flammable liquids such as gasoline, thinners, and other solvents. Self-closing caps and fire screens are extra insurance that is well worth while. Cans should be no larger than necessary and should be maintained in good condition. It is a good idea to stencil the name of the contents on each can so as to avoid confusion.

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Air Traffic Rules Clarified; Helicopter Regulations Eased

Taking cognizance of the changing character of air traffic, the Civil Aeronautics Board has revised Part 60, Air Traffic Rules, Civil Air Regulations, effective Oct. 8.

The revised traffic rules, worked out after 12 months of study and discussions with representatives of all phases of the aviation industry, take into account for the first time the increasing operations of amphibian and float-equipped planes on the surface of the water and the introduction of the helicopter into commercial use, and set up regulations covering these types of operations.

Except for these new regulations, the changes in Part 60 consist chiefly of revisions for the purpose of clarity and simplification in the interest of safety. Also, certain rules were changed to conform to the needs of various states and municipalities, thereby forestalling enactment of many and conflicting rules governing air traffic.

Rules Are Clarified

Whereas the existing regulations say only that "No person shall operate an aircraft in a careless or reckless manner so as to endanger the life or property of others," the new regulations set forth five specific examples of what might be considered as careless or reckless operation of an aircraft, including "buzzing," operating at an insufficient altitude, lack of vigilance in observing other air traffic, passing other aircraft too closely, and operating above a cloud layer without observing IFR requirements.

The rules as to right-of-way in the air remain the same as before, except for certain clarifying language and a notation that the rules do not apply when, for reasons beyond the pilot's control, aircraft cannot be seen due to restrictions of visibility. In such cases, the aircraft holding right-of-way will normally maintain its course and speed, but the pilot is not relieved of responsibility for taking such action as will best help to avert collision.

In overtaking, the overtaking aircraft must alter its course to the right to keep well clear of the overtaken craft, but no subsequent change in relative position of the two aircraft can absolve the overtaking aircraft from its obligation until it is entirely past and clear. In landing, the aircraft at the lower altitude has the right-of-way, but it must not take advantage of this rule to cut in front of another which is on final approach to land, or to overtake that aircraft.

The rules as to minimum safe altitudes are changed in several respects.

Present rules say that except when necessary for taking off and landing, air craft shall be flown over congested areas and open-air assemblies of persons at altitudes sufficient to permit emergency landings outside such areas and in no case at less than 1,000 feet above such areas; elsewhere 500-foot minimums must be observed except over water or areas where no surface hazard exists.

The new regulations differ here in that they require maintenance at all times, except when landing or taking off, of an altitude that will permit an emergency landing without undue hazard to persons or property on the surface in event of an engine failure, and that over congested areas an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet from the aircraft. Outside congested areas, an altitude of 500 feet above the surface must be maintained except over open water or sparsely populated areas, and even in such areas an aircraft must not be operated closer than 500 feet to any person, vessel, or structure.

In instrument flight operations, the minimum IFR altitude established for that portion of the route over which the operation is conducted will be the minimum, and if no such minimum has been established, operations shall be conducted at not less than 1,000 feet above the highest obstacle within a horizontal radius of five miles from the aircraft.

Helicopters Exempted

Recognizing the "special flight characteristics" of the helicopter, the revised regulations exempt helicopters from the prescribed minimum safe altitudes, provided they are operated without hazard to persons or property on the surface, and provided good judgment and caution are exercised by the helicopter pilot in flying with due regard to places in which an emergency landing can be made with safety.

In taxiing on the water, an aircraft must, in so far as possible, be kept clear of all surface vessels and avoid impeding their navigation. Except under "special circumstances," such as when two aircraft or an aircraft and a vessel are approaching and it is impracticable for one to bear to the right because of wind condition, water depth or other circumstances, marine rules for the operation of vessels will apply to aircraft taxiing on the water. The aircraft or vessel on the right has the right-of-way when crossing, the aircraft or vessel being overtaken has the right-of-way and the one overtaking must alter its course to keep well clear.

La Guardia, Newark Take-Off Regulations Amended by CAB

Adoption of a Special Civil Air Regulation pertaining to take-off procedures and amendment of another regulation dealing with the same subject have been announced by the Civil Aeronautics Board.

The special regulation, effective Sept. 25, permits air carrier planes taking off from La Guardia Field or Newark Airport to be banked after passing over the airport boundaries and attaining an altitude of not less than 300 feet. This is a variance with Sec. 61.7209, which restricts the banking of aircraft below the altitude of 500 feet, but CAB said that at La Guardia and Newark this section has the effect of requiring flight over highly congested areas at low altitudes, and it deemed the avoidance of such flight "more in the interest of safety than observance of the requirement that no turns be accomplished below 500 feet."

The amendment, effective Sept. 26, requires that any gradient of the take-off surface, however small, be taken into account when computing the take-off limitations for airplanes certificated under the transport category.

The amended section has heretofore required only that corrections be made for any "appreciable" gradient. The Board held that since the word "appreciable" has no defined limits, this may under certain conditions constitute a hazard to safety in that the gradient may not always be taken into consideration when establishing take-off limitations.

Westchester OK'd as Provisional Landing Field for Transports

Certification of the Westchester County Airport as a provisional landing field for commercial transports, instead of just as an alternate, is expected to relieve some of the congestion at La Guardia Field and Newark Airport when those fields are "souped in."

Under the certification, airline flights may be scheduled directly to and from Westchester when the ceiling is 500 feet or better and visibility a mile. Studies have shown Westchester seldom goes below these minimums at times when the two major ports are closed. American Airlines and American Overseas already have contracted to use Westchester when La Guardia or Newark are closed by weather, and other airlines are reported negotiating to use the field.

NAL Flight Control to Miami

National Airlines' flight control section has moved from Jacksonville to Miami, where it is housed in the newly completed addition to the NAL maintenance and operations base at Miami International Airport.

Regulations for Air Carrier Operating Certificates Eased

Certificated air carriers who have had difficulty obtaining air carrier operating certificates because of inability to comply fully with Parts 40 and 61 of the Civil Air Regulations may get relief under a special regulation adopted by the Civil Aeronautics Board last month.

Purpose of this regulation, which is to be effective until Aug. 31, 1948, is to authorize the Civil Aeronautics Administrator to issue and modify air carrier operating certificates, where safety will not be adversely affected, for certificated carriers heretofore unable to meet all the Board's requirements.

It is applicable only to holders of temporary certificates of public convenience and necessity who, because of the aircraft or equipment used, the navigational facilities on the routes to be flown, or the types of services offered, have been unable to qualify for operating certificates as scheduled air carriers.

Braniff Gets First DC-6

Braniff Airways has taken delivery on the first of the six Douglas DC-6 sleeper planes it proposes to use on the 7,600 miles of Latin American routes it is certificated to serve and over which service is to be inaugurated this fall.

New Engine Analyzer Goes Into Production

A new electronic engine analyzer developed through the combined researches of four companies is now being put into production by the Sperry Gyroscope Co. at its Great Neck, N. Y., plant.

Based upon extensive tests of the analyzer this year on overseas flights in a Pan American Airways' Constellation, Sperry engine instrument engineers forecast increased aircraft utilization, increased safety and more efficient operating methods for airlines through use of the analyzer to locate and identify aircraft engine troubles during flight.

Troubles in ignition, fuel, hydraulic and electrical systems and mechanical difficulties in the engine can be identified at the moment they occur or when the difficulty is just beginning to develop. This knowledge warns flight personnel either to make corrective adjustments or, when more serious troubles are anticipated by the analyzer, to change their flight plans for the sake of safety.

It is predicted that the Sperry analyzer will enable flight engineers to give ground crews specific instructions on any engine deficiencies not correctible during flight, thus greatly reducing time and revenue losses from trial-and-error attempts to

locate sources of trouble.

Cost of the engine analyzer approximates \$3,500, depending on type of installation, and airline data show that saving one day on a large ship such as the Boeing Stratocruiser will pay for four analyzers plus the cost of carrying the 47 pounds weight of one analyzer for a year.

Credit for development of the analyzer is shared among Sperry engineers, James W. Wheeler, William Van Rosenberg and Frank Stutz; Pan American's John E. Lindberg, Jr.; Wright Aeronautical Corp. engineers, John Street and George Keller; and Clifford Stackett, formerly of the Chrysler Corp.

Ground test facilities were provided by Wright Aeronautical.

Domestic Airline

Daily Plane Utilization

	May	June
American		
2 eng. pass. ...	8:11	8:01
4 eng. pass. ...	8:20	7:37
Cargo	6:12	4:10
Braniff		
2 eng. pass. ...	7:29	7:22
4 eng. pass. ...	6:10	6:16
Capital-PCA		
2 eng. pass. ...	8:15	8:24
4 eng. pass. ...	6:52	7:00
Cargo	5:17	2:51
Caribbean		
2 eng. pass. ...	2:45	2:39
C & S		
2 eng. pass. ...	8:34	8:38
4 eng. pass. ...	6:32	6:22
Colonial		
2 eng. pass. ...	4:48	5:32
Continental		
2 eng. pass. ...	9:01	9:18
Delta		
2 eng. pass. ...	8:18	8:11
4 eng. pass. ...	6:52	6:13
Cargo	6:04	....
Eastern		
2 eng. pass. ...	11:24	11:29
4 eng. pass. ...	10:59	8:25
Cargo	3:05	2:52
Hawaiian		
2 eng. pass. ...	5:37	7:32
Cargo	2:48	3:14
Inland		
2 eng. pass. ...	10:38	12:18
Cargo	1:08	:57
Mid-Continent		
2 eng. pass. ...	8:16	8:33
National		
2 eng. pass. ...	8:07	7:20
4 eng. pass. ...	10:56	10:34
Northeast		
2 eng. pass. ...	4:31	6:30
4 eng. pass. ...	3:18	4:01
Northwest		
2 eng. pass. ...	9:01	8:29
4 eng. pass. ...	9:44	9:38
TWA		
2 eng. pass. ...	10:56	11:16
4 eng. pass. ...	6:25	7:34
Cargo	6:27	5:50
United		
2 eng. pass. ...	10:59	11:01
4 eng. pass. ...	8:35	8:00
Cargo	7:25	6:29
Western		
2 eng. pass. ...	6:42	7:17
4 eng. pass. ...	7:10	6:54



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O-1	Leece-Neville	22600	2500/4500	24	100	\$112.50
O-1	Leece-Neville	22602	2500/4500	24	100	112.50
O-1	Leece-Neville	22604	2500/4500	24	100	112.50
O-1	Leece-Neville	S-24250	2500/4500	24	100	112.50

STARTERS

TYPE	Manufacturer	Part No.	Rotation	Voltage	NET
JH3R	Jack & Heintz	280R3	R.H.	24	\$150.00
JH4-FR	Jack & Heintz	2330R3	R.H.	24	150.00
JH5B	Jack & Heintz	540R12		24	75.00
H-6	Eclipse	444-4F	R.H.	12	168.75
J-1	Eclipse	756-21B	L.H.	24	97.50
G-6	Eclipse	915-4E	R.H.	24	168.75

PROPELLER ASSEMBLY

MANUFACTURER	PART NUMBER	NET
Hamilton Standard	23E50-473-6353-A-18	\$1,239.00
Hamilton Standard	23E50-473-6477-A-0	899.50
Hamilton Standard	23E50-505-6477-A-0	899.50

BLADE ASSEMBLY

MANUFACTURER	PART NUMBER	NET
Hamilton Standard	6477-A-0	\$112.50
Hamilton Standard	6507-A-0	262.50

GOVERNOR ASSEMBLY

MANUFACTURER	PART NUMBER	NET
Hamilton Standard	4G8G23G1	\$150.00
Hamilton Standard	4K11G0J	150.00
Hamilton Standard	4K11G0L	150.00
Hamilton Standard	4K11G1J	150.00

HUB ASSEMBLY

MANUFACTURER	PART NUMBER	NET
Hamilton Standard	23E50-473	\$562.00
Hamilton Standard	23E50-505	562.00
Hamilton Standard	33E60-125	1,170.00

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VACUUM PUMPS (Engine Driven)

Type	Mfr.	Part No.	CFM	Drive	Port Size	Net
B-8	Pasco	3P211J	17	12T Spline	3/4"	\$49.50
B-8	Eclipse	119626-610-2C	15	12T Spline	3/4"	49.50
B-12	Pasco	3P207JA	7 1/2	12T Spline	1/2"	42.50

HYDRAULIC PUMPS (Engine Driven)

MFR.	PART NO.	PORT POSITION	PORT SIZE IN	PORT SIZE OUT	ROTATION	NET
Pasco	1P203LA	End	1/2	1/2	Either	\$37.50
Pasco	1P203LC	End	1/2	1/2	Either	37.50
Pasco	1P203UB	End	1/2	1/2	Either	20.41
Pasco	1P349L	End	1/2	1/2	Either	35.50

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Part No.	Description	List Price	Part No.	Description	List Price
104	Bearing	\$ 2.13	31606	Valve	\$ 13.75
122	Bearing	2.13	32634	Deflector	147.73
3965	Gear	58.60	34378	Impeller	189.18
9269	Liner	5.99	34547	Crankcase	621.31
11730	Bearing	19.38	34846	Cylinder	119.30
14375	Crankcase	223.54	34847	Cylinder	119.17
15373	Piston	12.76	34849	Cylinder	184.71
17350	Valve	4.97	34869	Cylinder	117.96
19667	Ring	.56	35204	Impeller	54.04
20218	Bearing	14.64	35570	Pump	133.58
20506	Rod	20.58	35780	Piston	11.88
26389	Bearing	3.20	38445	Impeller	214.43
29280	Bearing	7.50	44098	Cylinder	243.21
31276	Bearing	.85	44103	Cylinder	239.23
31406	Ring	.55	50512	Ring	.36
31498	Bearing	48.21	91470	Piston	6.66

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AMERICAN-BOSCH			SCINTILLA		
Part No.	Description	List Price	Part No.	Description	List Price
PL-716	Plate	\$ 1.20	10-1239V	Distributor	\$13.00
MA-5215	Magnet	4.90	10-4206Y	Magnet	7.33
IS-5231	Insulation	2.20	10-5049	Bushing	2.78
RT-5233	Rotor	8.20	10-5908Y	Shaft	3.92
CW-5238	Condenser	.70	10-7461-1	Condenser	2.20
BG-5239	Bushing	.30	10-12036Y	Cylinder	1.10
CL-5248	Coil	13.60	10-12846W	Adapter	1.65
IN-5255	Breaker	11.50	10-18555	Block	3.30
GE-5286	Coupling	2.25	10-25858Y	Housing	36.52
GE-5298	Gear	1.13	10-28125	Distributor	48.83
HG-52174	Housing	20.50	10-28716	Ventilator	.79
DP-52300	Block	11.50	10-29217	Oil Seal	3.80

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Underwing Fueling Saves Time With Stratocruiser

Gas servicing time on the Boeing Stratocruiser will be reduced more than 60% through use of a new underwing fueling system, details of which have been disclosed by the Boeing Aircraft Co.

The system, result of more than two years of development and testing, fills each of the Stratocruiser's three nylon fuel tanks at a rate of 250 gallons per minute, thus enabling complete fueling of a ship with 7,620 gallons of gasoline in a little over 10 minutes.

Among the equipment used in the underwing fueling is a non-spilling nozzle and fuel cell valve, both of which were designed by J. C. Carter, a development engineer.

Equipped with a control handle, the nozzle "breaks" the fuel cell seal when attached to the cell valve. The flow of fuel through the hose automatically opens the handle farther, which in turn allows the gas to enter the cells around the valve. When the fueling operation has been completed, the pumping system automatically shuts off the supply of gas. This in turn closes the seal and the nozzle, sucks remaining fuel from the hose, and returns the nozzle handle to its original position. The hose may then be detached from the valve.

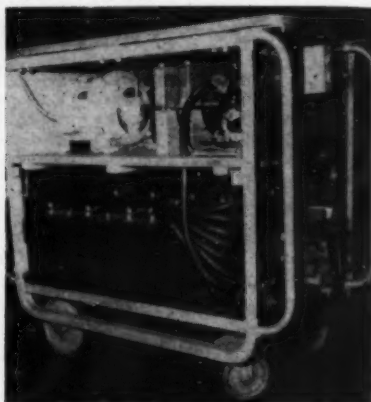


Underwing Fueling—L. J. McMurtrey, Boeing Aircraft Co. powerplant engineer, attaches a non-spilling nozzle to a specially designed fuel cell valve on a Boeing Stratocruiser underwing fueling test rig. Smaller hoses shown on wing are a part of the Boeing test equipment and lead to manometer boards.

Boeing said Northwest Airlines and American Overseas Airlines—two of the six carriers who have ordered Stratocruisers—already have contracted for the underwing fueling installation.

Braniff Uses Portable Cart For Testing Accessories

Braniff Airways has assembled this variable DC voltage supply cart for shop use in testing accessories which require voltage of different values.



Taps and a knife switch will allow selection of from two to 28.5 volts and amperage as required up to 300.

The portable cart carries a five horsepower electric motor which drives a standard 100-amp aircraft generator control system in conjunction with two 12-volt storage batteries.

All parts used in assembling the unit were taken from surplus stocks, and the only cost to the company was in 25 man-hours needed to put it together.

'Snow King' Uses Heat To Clear Airport Runways

With winter coming on, airport managers in many states are studying with interest a brochure describing the Snow King, a machine designed and built to remove snow and ice from airport runways by using heat and claimed to be the only machine using this method.

The Snow King Manufacturing Corp., of Pittsburgh, states its machine is capable of removing, and keeping removed, all snow and ice from a runway or any other base at a cost of less than 1c per cubic yard.

The Snow King is an integral unit which can be mounted on any standard grader. It consists of an insulated steel combustion chamber; two combustors (burners); a blower; a gasoline engine to operate the blower; a fuel tank; instantaneous electric ignition system to ignite the burners; a fuel pump, an oil pressure gauge and a two-way radio. An air regulator attached to the blower controls the length of the flame and temperature of the heat.

Two men are required to operate the machine, one operating the grader or mobile unit, the other handling such details as adjusting the air flow and seeing that the equipment is properly oiled and greased. With the two-way radio, the man in the cab is in constant touch with the control tower.



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Air Carriers Look to Sports For Boosting Charter Income

By KEITH SAUNDERS

Sports travel only a year or two ago was regarded by most airlines as an insignificant segment of their business, valuable chiefly for promotional or publicity purposes, but this kind of thinking is fast being washed overboard by a flow of dollars which the world of sports is pouring into the tills of the nation's air carriers.

Specific data are difficult to procure, but it is known from reports to the Civil Aeronautics Board that 16 of the scheduled U. S. airlines collected more than a million dollars for 3,500,000 revenue passenger miles of non-scheduled flying the first six months of this year, and information from individual airlines indicates that a large portion of this traffic came from sports aggregations traveling on chartered planes.

By the time you add in the amount of sports travel on regular flights of the scheduled lines and on charter flights of non-scheduled carriers, the "take" from sports travel by air may run to several millions for the entire 1947 period. A survey just completed by AMERICAN AVIATION indicates that most of the carriers are actively seeking more revenue than ever from sports sources.

Effect on Sports

The benefits are not all on one side, however, for air transportation is working a minor revolution in the world of sports, vastly broadening the field of competition, eliminating "road fatigue" to a great degree, and making possible schedules which only a couple of years ago would have seemed fantastic.

There had been scattered instances previously, but use of air transportation for sport travel received its first big impetus last year when the N. Y. Yankees contracted with United Air Lines to fly them to all out-of-town games. The season now ending has seen many baseball teams use air travel, including:

Several Pacific Coast League teams, flying on Western Air Lines; the eight teams of the Florida International League, including Havana, which could not be in the league but for air transportation; the Boston Red Sox, who have flown approximately 20,000 miles with American Airlines; the Kansas City Blues and Minneapolis Millers, who have used Mid-Continent Airlines in filling some road engagements; the Baltimore Orioles, who have flown with Colonial Airlines to Syracuse and

other International League cities; the Dallas team of the Texas League, which has made trips on Pioneer Air Lines; the Yankees, who have flown mostly with United but also with American; the New Orleans Pelicans and Memphis Red Sox, who have used Chicago and Southern; and the Boston Braves, who have traveled via American.

Furthermore, exhibition tours of the Caribbean and Central America by the Yankees, Dodgers, Senators and Red Sox, traveling via Pan American Airways Clippers, has greatly stimulated the popularity of the U. S. national pastime in those areas, and subsequent seasons should see exchanges of visits between U. S. teams and nines from nearby Latin American countries.

Football went in for the benefits of air travel about the same time as baseball did, but to an even greater extent, with the result that the forward pass is not the only means whereby many teams are taking to the air these days.

United Air Lines rang the bell last season by signing up all eight teams of the pro football All-American Conference for 113,000 miles of travel, including one hop on which it flew the 49'ers from San Francisco to Miami to play the Seahawks. In addition, UAL had contracts with a number of college teams last year and has lined up for this season flights for the University of Wisconsin and others, including the University of Colorado, which will fly to

Honolulu to engage University of Hawaii.

TWA got into the business a year late but is doing quite well at it this season, holding contracts already with Illinois, University of San Francisco and St. Mary's of California, plus a tentative arrangement for transporting the Notre Dame eleven in December, and contracts with four of the All-American Conference teams. The latter, calling for 2,453,646 passenger miles of travel, will bring TWA charter revenue in excess of \$100,000, plus a probable \$20,000 of revenue on regular schedules involving individual player travel to and from domiciles, and scout and administrative travel.

Good Football Business

Capital Airlines had two or three football charters last year, but as a result of an aggressive sales campaign is opening the 1947 gridiron season with a bagful of charters, five for University of Maryland, five for Pitt, 10 for Duquesne, five for the Baltimore Colts, two for Duke, two for University of North Carolina, one for Alabama, one for Tennessee and one for the Los Angeles Dons—32 in all, and a good chunk of business.

Other football travel reported by the airlines include: N. Y. Yankees flying to Los Angeles this month via American, which also will take the Los Angeles Rams on four trips to the East Coast; charters with Pioneer Air Lines by Austin High and Houston fans; Chicago and Southern has contracts to fly Mississippi State College, University of Mississippi, Miss. Southern College, Tennessee Alumni Club and others; Pan American has flown University of Havana eleven to the mainland for games; Western Air Lines flew four pro teams to Los Angeles last year and expects to do better this season; Colonial has flown the Jersey City team; and Resort Airlines last year flew the Tennessee team and the Charlotte Clippers, in addition to a charter to the Sugar Bowl.

Obvious advantages of air travel for football teams include: it enables a team to diversify schedules and engage



Fast and Accurate—This new "moto-rack" system installed in United Air Lines' Seattle reservations office—one of four different procedures being tested along UAL's system—was the idea of George Marshino of San Francisco, who has received two awards totaling \$1,000 from the company's employee suggestion conference. Designed to bring the work to the worker, the method uses a motorized file rack to which reservation control records are attached. In checking a specific flight, the agent touches an electric button which puts the rack in motion and brings the desired card file within reach.

more teams from distant sections of the country than it could otherwise meet in a season; it gets a team to almost any destination in a matter of a few hours, thus minimizing travel fatigue and allowing more time for rest as well as for practice on the "enemy" grounds; and, in the case of college elevens, causes them to lose much less time from the classroom when playing games out of town.

Horse racing is fast becoming an important source of revenue to some airlines, both on scheduled and on charter flights. Track fans, owners, breeders, trainers and track officials follow the circuit from track to track via airlines, and a number of carriers run special charters to big races such as the Kentucky Derby and the Widener Handicap. More interesting is the trend toward use of airplanes for transporting race horses. Last winter, Armed competed in the Widener at Hialeah and then was flown to California to take part in the Santa Anita Handicap, a feat not possible without air travel.

American Airlines is catering to this type of business with a DC-4 converted into a flying stable with four double padded stalls, a footing of heavy hemp matting strewn with sawdust, straps for bracing the horses, and hay, oats and water. It brought six Irish thoroughbreds to this country for breeding last winter, later brought over six top English racers, flew eight pacers from San Francisco to New York in June, and flew 48 Mexican bangtails to Los Angeles to race at Hollywood Park and Del Mar. Pan American flew three South American horses, including Endeavor, to New York for the Belmont

Gold Cup, and flew six race horses from Buenos Aires to Guayra, Venezuela, several weeks ago.

Other air carriers who have profited and expect to profit even more from horse racing including: Willis Air Service, a non-certificated airline with planes equipped especially for carrying horses; Eastern Air Lines, which does a big business flying track followers from New York and other points to Florida during the Tropical Park and Hialeah seasons; Colonial, which runs profitable extra sections to Glens Fall, N. Y., during the Saratoga season; and National Airlines, which flies many of the racing fraternity on its flights from New York to Miami, New Orleans to Miami, and Havana to Miami.

Even bullfighting is contributing to airline revenues. Pan American last spring flew three plane-loads of "aficionados" (fans) from Havana to Merida, Mex., to see the late great Manolete perform in the bull ring, and more recently Pan Am flew nine bulls weighing 17,000 pounds from Barranquilla, Colombia, to Havana, for the fights on Labor Day week-end.

Rod and gun enthusiasts, of course, are availing themselves of the speed of air travel to get in a maximum of hunting and fishing with a minimum of time lost from business.

In this connection, both United Air Lines and Colonial fly "hunter specials" from the East out to South Dakota during the pheasant season; Pan American's flight from Miami to Cat Bay on alternate days virtually becomes an "anglers' special," catering to fishermen seeking marlin, tuna and other big game fish; and Monarch Air Lines not only

is flying charters to the big game country but is going after more business from Isaac Walton followers by putting jeep station wagons at most of its stations so fishermen can reach a favorite stream in the least possible time.

And so on, ad infinitum. Air transportation is playing an important role in other sports too numerous to mention.

Suffice it to say that the sports world is becoming decidedly air-minded, while the airlines, with an eye cocked at their revenue sheets, are becoming increasingly sports-minded.

DC-6 Creating New Travel Preferences

New travel preferences are being created by pressurized equipment and faster schedules, a study of traffic trends in Los Angeles indicates. Daylight flights, instead of the overnight flights, now are carrying the heavier loads on transcontinental trips out of Los Angeles.

Al Bone, western regional vice president of American Airlines, reports that American's new Flight 6, leaving Los Angeles at 9:15 a.m. and arriving in New York at 9:50 p.m. is operating practically at capacity and has replaced the overnight Mercury, long regarded as American's best transcontinental trip, as the most popular flight for Los Angeles passengers going to the Atlantic coast. DC-6 equipment is used on both flights and schedules are identical in elapsed time.

United Air Lines' new DC-6 transcontinental daylight flight leaving Los Angeles at 8:25 a.m. has been operating at a 92% load factor since its inauguration. Of five Constellation schedules between Los Angeles and New York, TWA's heaviest loads are being carried on the trip departing at 9:20 a.m.

The reason is that the faster DC-6 and Constellation schedules permit arrival at a convenient hour. Previously daylight transcontinental flights extended too far into the night. An additional reason is that pressurization carries the passengers above the rough air predominating in the west in the daytime during the summer months, making the daylight trips as comfortable from this standpoint as the night flights.

Most noticeable example of how pressurization has had a definite effect on traffic is American's Los Angeles-Mexico City run. American's traffic from California to Mexico City fell to a new low in May and June when it was using DC-4 equipment, because of the very rough air encountered. American put DC-6 equipment on the flight July 1 and in the first month of operation netted a traffic increase of 40%. This increase becomes more significant in that during the same period American's total traffic out of Los Angeles decreased 12%.

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New Services

Pan American Airways on Sept. 25 will inaugurate direct commercial air service between San Francisco and Tokyo, as a part of its new round-the-world service. Thereafter there will be one flight weekly in each direction over the route from San Francisco to Shanghai, via Honolulu, Wake and Tokyo. On Sept. 24, PAA is to resume its war-interrupted direct service between California and Hong Kong, with two flights weekly in each direction via Honolulu, Wake, Guam and Manila. Los Angeles will be served on both routes by direct connections at Honolulu.

Eastern Air Lines has stepped up service on its New York-Washington route to 32 trips daily, Monday through Friday, with 29 daily flights on Saturdays and Sundays. Three trips daily are flown with new-type Constellations on 60-minute schedules. Eastern claims it now offers the most frequent "air commuter" service ever offered between any two cities by one airline.

National Airlines has extended DC-4 service to Tallahassee, Fla., and Mobile, Ala., providing both cities with their first scheduled service by four-engined planes.

American Overseas Airlines has resumed daily nonstop trans-Atlantic service from New York to Shannon, Ireland. Eight nonstops a week are flown from N. Y. to London under the new schedule, and two additional flights a week, originating at N. Y., will stop at Boston before making the hop to Shannon. All the flights are made with L-49 Constellations.

American Airlines is serving Philadelphia, Washington and Tulsa on a third DC-6 flight added to its New York-Los Angeles schedules. The two other flights are routed via Chicago.

Southwest Airways has inaugurated round trip daily service between San Francisco and Clear Lake, Calif., vacation resort. Service has been reinstated to Coalinga, Calif., where work has been completed on the airport landing strip.

Cargo

United Air Lines recently inaugurated overnight Cargoliner flights between New York and Los Angeles with a fast schedule of 13½ hours—fastest coast-to-coast all-cargo service ever operated by a scheduled air carrier.

California Eastern has inaugurated service into Cleveland and Detroit, serving both those cities from the Pacific and Atlantic coasts with daily arrivals and departures. Denver and Chicago formerly were the only intermediate stops between N. Y. and the West Coast.

Ticketing Notes

Interline agreements have been effected between Scandinavian Airlines System and United Air Lines and between SAS and Eastern Air Lines. Eastern and United planes connect at New York City with SAS DC-4 aircraft operating daily to the Scandinavian countries.

September 15, 1947

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1927 — 20TH YEAR OF GETTING THERE FIRST! — 1947

NWA Adopts All-Telephonic System for Reservations

A new all-telephonic reservations system set up by Northwest Airlines has enabled the company to all but abandon use of the company teletype system for relay of reservations information, leaving it more open for other airline use.

Made possible through the leasing of several thousand miles of long-line telephone wires from the American Telephone and Telegraph Co., the new system makes a sensitive and quickly responsive network of all Northwest Airlines reservations offices, so that a query regarding seats and flights—either on the company's transcontinental routes or its Orient routes—will get an answer promptly, often within less than a minute.

In addition to the leased wires, the system operates through setting up of a master-board at the Twin Cities airport, through which communications from a dozen key cities clear. Main circuits on the leased wire network provide instant communications with Milwaukee, Detroit, New York, Rochester, Madison, Chicago, Fargo, Spokane, Portland and Seattle. Each circuit keeps the Twin Cities "nerve center" at Wold-Chamberlain Airport informed as to the number of seats available on all flights.

In each of these key cities, operators manning switchboards and handling nothing but reservations keep the space data up to the minute. Other members of a special staff plot on blackboards unused seats for all flights. These boards show space reservations for two weeks in advance of any current date. The operator receiving a request for space glances at the blackboard and can tell instantly what flight the passenger can take, as well as his return flight a week or two later.

Orient bound space is readily determined through the domestic telephonic network, and that aboard planes returning from the Orient is

determined through cablegrams sent to the mainland periodically from Tokyo, Shanghai, Seoul and Manila.

To improve coordination, through better telephone communications, Northwest has moved most of its reservations offices from airports to downtown ticket offices. This already has been done in Chicago, Detroit, Milwaukee, Duluth, Fargo, Billings, Seattle, Portland and Yakima, and the same move will be made at New York shortly.

Braniff Reserves Hotel Space for Chicago Passengers

Housing service for passengers has been introduced by Braniff Airways, which has an arrangement with the Stevens, Palmer House and Sherman hotels in Chicago whereby it can make hotel reservations for its Chicago-bound passengers.

Under the Braniff plan, a passenger requests his hotel space simultaneously with his airline reservation. Notified by company teletype, the Chicago reservations office of the airline then calls the hotel and confirmation is received by the requesting station within a very short time. A special reservation slip validated by Braniff and showing the accommodations confirmed is given the passenger with his airline ticket.

NWA-Alaska Joint Fare Pact

Northwest Airlines has worked out a joint agreement with Alaska Airlines for a competitive fare of \$130, plus tax, between Seattle and Fairbanks, Alaska. Northwest's Seattle-Anchorage fare is \$120, plus tax, and Alaska's Anchorage-Fairbanks fare is \$30, plus tax. The agreement for the through fare for Fairbanks connecting passengers is to meet Pan American Airways' through fare of \$130 between Seattle and Fairbanks.

L.A. Airport Coach Service Wants Fare Boost to \$1.40

Airdrome Transportation Co., operators of the Los Angeles airport coach service, has applied to the Public Utilities Commission of California for permission to raise fares from \$1 to \$1.22. Including tax, the proposed increase would boost fares to passengers from \$1.15 to \$1.40.

The higher fare is needed to overcome higher operating costs, according to Arthur Beggs, president of Airdrome. Airdrome's losses so far this year were reported in excess of \$75,000.

Airdrome has abandoned its "street car" type service whereby it operated coaches to and from the airport on schedule at 10-minute intervals and has gone back to the old system of backing up each airline flight. Airdrome put in the scheduled service after the Los Angeles Municipal Airport was activated, but found it too costly, especially after the airlines shifted a number of flights back to Lockheed Air Terminal and the coach company had to restore ground transportation service to the Burbank airport.

Traffic Trends

Southwest: Reported monthly passenger traffic record for eight months from start of operations last December through July as follows: December, 897; January, 1,692; February, 2,165; March, 4,086; April, 6,270; May, 8,295; June, 8,257; July, 10,683. Became first feederline to carry over 10,000 passengers in a month and moved into 15th place among the 24 certificated domestic carriers in passenger traffic for July.

United: Reached an estimated 5,723,800 revenue airplane miles in July, up 14% from same month last year and 12% above 5,128,109 of June. Revenue passenger miles for July were estimated at 125,004,100, as against 108,806,132 for July of last year and 117,113,621 in June this year.

Delta: July passengers totaled 44,064, an 8% gain over 40,562 in June. Revenue passenger miles amounted to 16,027,520, increase of 527,438 over June figure.

American: July—63,156 passengers on domestic flights out of New York; June—59,450 domestic passengers out of New York.

Pan American: 4,393 passengers flown between Seattle and Alaska in July, as compared with 2,678 the same month last year. Air express on the Alaskan run this July totaled 51,651 pounds, and mail came to 20,053 pounds.

Pioneer: Flew 5,858 passengers a total of 1,568,019 revenue passenger miles in July, as compared with 5,627 passengers flying 1,504,969 revenue passenger miles in June, and 1,761 passengers flown 508,084 revenue passenger miles in July, 1946. Express shipments in July were 11,828 pounds, and mail amounted to 28,927 pounds.

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U. S. International Airline Traffic for June

AIRLINES	REVENUE PASSENGERS	REVENUE PASSENGER MILES	AVAILABLE SEAT MILES	PASSENGER LOAD FACTOR	U. S. MAIL TON-MILES	FOREIGN MAIL TON-MILES	EXPRESS TON-MILES	FREIGHT TON-MILES	TOTAL TON-MILES	REVENUE TRAFFIC TON-MILES	AVAILABLE FLOWN	% AVAILABLE TON-MILES USED	REVENUE PLANE-MILES	SCHEDULED MILES	% SCHEDULED MILES COMPLETED
American	6,016	4,880,000	8,750,000	55.8%	9,265	775	...	100,623	633,253	1,230,263	51.1%	223,043	221,145	100.0%	
Amer. Overseas	8,651	24,762,000	28,534,000	86.8%	142,760	18,822	187,854	...	3,030,467	4,164,791	72.0%	827,297	804,088	99.9%	
C & S	764	523,000	1,850,000	28.3%	150	...	...	9,329	63,060	206,517	30.3%	41,100	41,100	100.0%
Eastern	1,687	1,689,000	3,009,000	56.1%	1,991	...	...	10,000*	165,000*	460,210	35.0%	60,180	60,180	100.0%
National	2,482	774,000	1,595,000	48.5%	665	...	5,604	...	86,283	233,223	37.0%	34,680	34,680	100.0%	
Northwest	1,448	2,419,000	5,456,000	44.3%	31,583	...	6,107	24,694	303,950	663,881	45.0%	148,212	148,212	100.0%	
Pan American	57,796	55,941,000	101,149,000	55.3%	222,500	50,502	1,769,870	...	7,783,739	13,135,497	59.3%	2,590,629	2,526,927	98.7%	
Latin American	13,919	33,808,000	43,019,000	78.6%	123,895	53,737	396,246	...	4,217,696	6,695,611	62.9%	1,163,312	1,031,083	96.9%	
Atlantic	6,132	19,225,000	28,442,000	67.6%	211,685	9,225	305,050	71,124	2,348,275	3,725,423	63.0%	975,826	924,804	98.6%	
Pacific	4,516	4,431,000	8,398,000	52.0%	24,756	...	38,173	...	518,367	1,308,084	39.6%	194,008	196,543	85.2%	
Alaska	6,655	22,093,000	25,581,000	86.4%	213,962	61,121	301,446	...	3,077,204	4,433,781	69.4%	804,523	844,255	91.7%	
TWA	2,552	6,125,000	6,662,000	91.9%	30,554	...	7,263	...	649,623	746,924	86.9%	160,800	144,000	100.0%	
United															
TOTALS	112,618	176,670,000	262,445,000	67.3%	1,013,766	194,182	3,017,613	215,770	22,876,937	37,012,205	61.0%	7,223,610	6,977,017	97.4%	
* Estimated															
NOTE: Data in above tabulations were compiled by American Aviation Publications from monthly reports filed by the airlines with the Civil Aeronautics Board. Figures for American Airlines include that carrier's service to Mexico but not to Canada; for C & S to Havana; for Eastern to Puerto Rico; National to Havana; Northwest to Alaska and United to Honolulu. Operations of U.S. carriers into Canada are included in domestic reports by CAB, in accordance with CAB filing procedures.															

Summary of Feederline Traffic for June

AIRLINES	REVENUE PASSENGERS	REVENUE PASSENGER MILES	AVAILABLE SEAT MILES	PASSENGER LOAD FACTOR	MAIL TON-MILES	EXPRESS TON-MILES	FREIGHT TON-MILES	TOTAL TON-MILES	REVENUE TRAFFIC TON-MILES	AVAILABLE TON-MILES	% AVAILABLE TON-MILES USED	REVENUE PLANE-MILES	SCHEDULED MILES	% SCHEDULED MILES COMPLETED
Challenger Empire	557 1,175	132,000 221,000	934,000 810,000	14.1% 27.2%	893 1,628	173 339	15 ...	14,286 20,344	99,217 65,054	14.4% 31.3%	44,462 81,027	51,462 83,036	86.4% 97.6%	
Florida Monarch	548 1,249	74,000 257,000	526,000 1,547,000	14.1% 16.6%	394 1,043	162 3,335	14.2% ...	6,704 30,894	207,642 140,527	3.2% 21.9%	65,699 96,818	67,800 105,864	96.8% 91.3%	
Pioneer Southwest	5,627 8,236	1,505,000 1,394,000	4,872,000 3,293,000	30.9% 42.3%	3,191 2,744	1,565 3,165	... 397	137,055 146,269	407,684 328,814	33.6% 44.9%	202,894 160,543	202,980 174,446	99.9% 91.8%	
West Coast	3,772	358,000	1,090,000	32.8%	404	311	...	31,992	108,433	29.5%	50,490	52,680	95.9%	
TOTALS	21,164	3,941,000	13,072,000	30.1%	10,297	9,050	1,107	387,544	1,337,371	28.5%	701,933	738,268	95.0%	

Feederline Revenues-Expenses for Quarter Ending June 30

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NONSCHEDULED TRANSPORT REVENUE	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
Challenger	\$ 35,799	\$ 9,038	\$ 22,282	\$ 125	\$ 22	\$ 21	\$ 314	\$ 101,701	\$ 36,345	\$ 65,356	\$ -65,093
Empire	124,843	39,040	85,253	264	...	230	...	220,822	129,269	91,553	-95,979
Florida	73,840	14,569	58,647	283	...	73	...	130,418	69,171	61,247	-56,578
Monarch	146,768	42,840	100,096	2,604	1,018	196	...	268,603	158,041	110,562	-121,835
Pioneer	595,689	202,335	354,536	969	...	1,002	2,123	430,899	210,745	220,154	164,790
Southwest	299,889	167,835	127,888	2,731	357	541	867	481,328	221,453	259,875	-181,440
West Coast	103,417	56,238	48,592	370	...	137	...	130,132	44,660	85,472	-36,715
TOTALS	1,380,245	531,895	796,694	7,346	1,397	2,202	3,304	1,763,903	869,684	894,219	-382,850

NOTE: Under CAB filing procedures, the airlines file a cumulative quarterly financial report for April-June in place of a separate statement for the month of June. Traffic data, however, are reported separately for each month.

Note: Above tabulations were compiled by AMERICAN AVIATION PUBLICATIONS from official reports filed by the companies with the Civil Aeronautics Board.

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Convair Plans to Dispose Of Non-Aviation Properties

Consolidated Vultee Aircraft Corp. is proposing to dispose of its non-aviation properties and to concentrate on the single field of aviation, which is its primary business.

This transaction, to be voted on by Convair stockholders at a special meeting called for Nov. 3, would provide Convair with \$6,000,000 in cash for use in connection with its commercial aircraft production program and also serve to reduce the outstanding capital stock of the corporation.

Plans call for selling Convair's non-aviation properties to a new corporation in which the Avco Manufacturing Corp. will hold a substantial interest, while at the same time Avco will dispose of a substantial portion of its stock interest in Convair.

The separation of Convair's aviation and non-aviation interests has been approved by the directors of Convair and Avco, as well as by Floyd B. Odum, president of Atlas Corp., now second largest Convair stockholder and expected to become the largest stockholder under the new setup.

According to tentative plans, the new corporation will have an authorized capitalization of 1,500,000 common shares, of which approximately 800,000 shares will be initially issued.

For each four Convair shares held, every stockholder, including Avco, will be given the same opportunity to purchase two shares of stock in the new corporation in exchange for one share of Convair and approximately \$18.50 in cash. Upon consummation of the transaction, Avco will own, on the same terms and at the same cost per share, such of the offered shares of the new corporation as are not subscribed for by other Convair stockholders. Under the plan, Convair will receive approximately 400,000 shares of its presently outstanding stock.

If Convair stockholders approve the proposal, Avco will relinquish management control and ultimately will divest itself of all interest in Convair, at the same time strengthening its position in the household appliance-consumer goods industry.

Fitting into the picture was the announcement by Odum that Ben O. Howard, for the past several years assistant to Donald Douglas, president of Douglas Aircraft Co., has joined the staff of Atlas as a specialist in the aviation field.

Prediction

CAB Chairman James M. Landis, in a newspaper interview recently, said that the three U. S. flag airlines operating in trans-Atlantic service might show a profit on their Atlantic operations year without counting mail pay. Landis also saw the same prospects for most Latin American routes. Landis predicted that within a decade or two, nearly all U. S. international routes will be in the black without subsidy.

Odum said the primary business of Atlas consists of going into special situations that give promise of being worked out beneficially and profitably over a period of time, and that Convair would become one of such special situations. He said Atlas thinks Convair's problems capable of solution, although the short-range outlook appears "rather dismal."

NAL Reports \$372,697 Profit For Fiscal Year Through June

National Airlines reported a net income after taxes of \$372,697 for the fiscal year ending June 30, as compared with earnings of \$226,538 for the previous fiscal year. Operating revenues for the year were \$11,077,492—nearly double the figure of \$5,833,421 for the preceding year, while operating expenses were \$10,432,006, as compared with \$5,647,677 the year before. Operating profit before taxes was \$601,125, as compared with \$262,038 a year ago.

NWA Reports July Profit

Northwest Airlines showed a net profit of \$168,649 for July after all charges, including \$379,585 depreciation. Passenger load factor on domestic flights was 76.4%, and August loads were reported well ahead of the July pace.

Lehmann Expands Holdings

The Lehmann Corporation greatly expanded its holdings of airline stocks during the fiscal year ended June 30, adding to its portfolio 14,600 shares of United Air Lines stock, 11,000 American Airlines shares, and 10,000 Eastern Air Lines shares.

CAB Sets Mail Rates For Pan Am Services

A lump sum mail payment of \$3,190,000—equivalent to 12.33c per mail pay mile—has been awarded by the Civil Aeronautics Board to Pan American Airways' Latin American Division for the period from March 1, 1944, through Aug. 31, 1945.

In the same opinion, the Board gave PAA \$446,000, or the equivalent of \$4.07 per revenue plane mile flown, for operation of its Miami-Leopoldville service between Sept. 21, 1944, and Jan. 8, 1945. The rate was set almost entirely on the basis of the national defense considerations of that service.

With regard to rates on the Latin American Division beginning Sept. 1, 1945, the opinion provided:

(1) A rate of 80c per ton-mile for an average mail load per day of 400 pounds for mail carried on schedules between the U. S. and its possessions and from the U. S. and its possessions to foreign countries. Loads in excess of 400 pounds per day will be paid for at a rate of 70c per mail ton-mile, with mail ton-miles to be figured as though the average mail load were not less than 500 pounds for one schedule per day of designated mileage not exceeding 25,000 miles.

(2) A rate of 80c per ton-mile for an average load per day of 400 pounds for one schedule per day, with an excess rate of 70c per ton-mile for loads exceeding 400 pounds for U. S. mail carried on schedules from foreign countries to the first scheduled stop within the U. S.

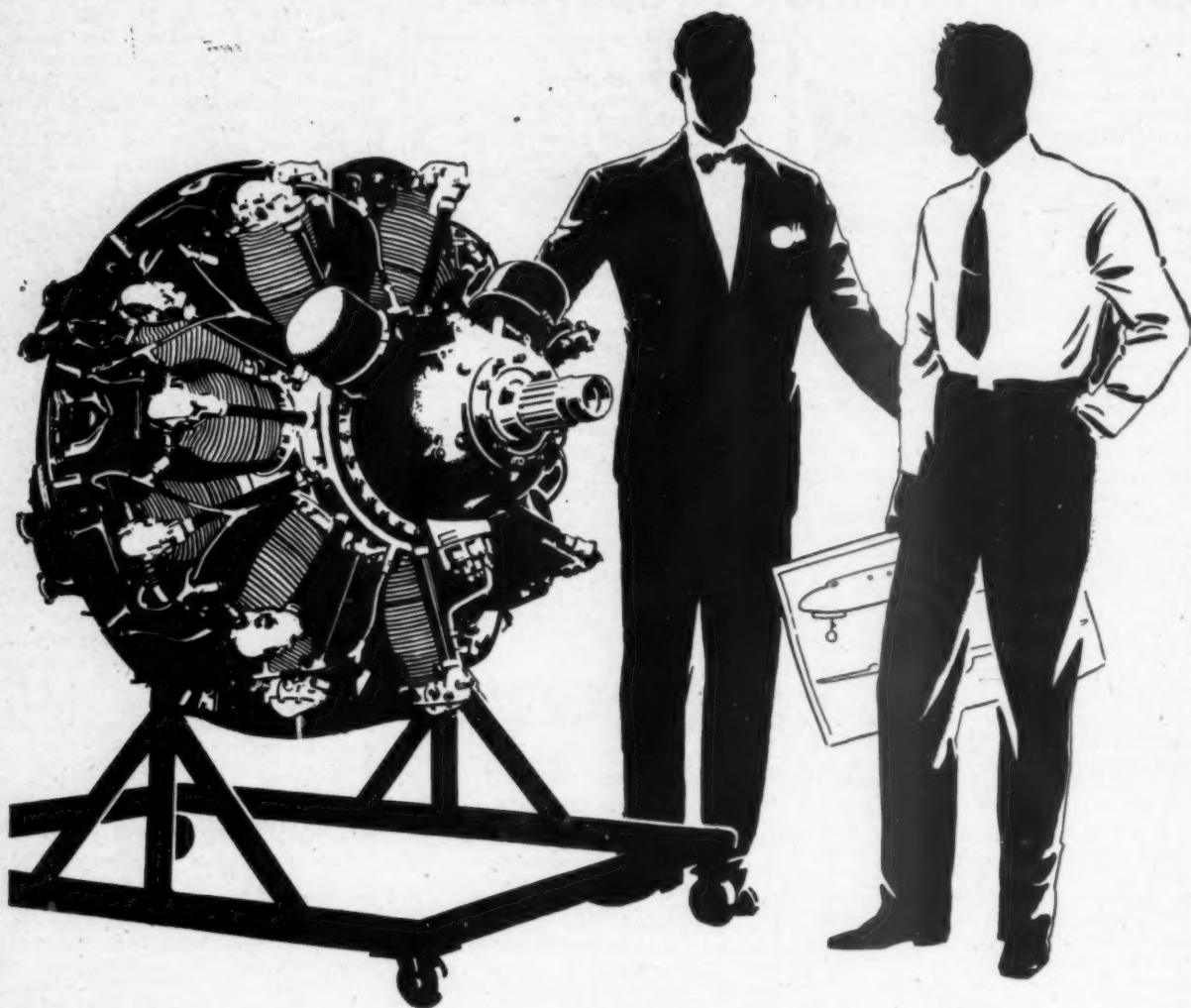
Florida Airways Arranges \$1,500,000 Financing Program

Florida Airways has completed arrangements to finance the purchase of six new aircraft and other flight and ground equipment estimated to be needed in connection with the route expansion program contemplated in its application in the Additional Service to Florida Case now pending before the Civil Aeronautics Board. The \$1,500,000 financing will be handled by Leedy, Wheeler & Alleman, Inc., of Orlando. The airline proposes to increase its daily scheduled mileage from 2,280 to 6,932 miles and to add 16 new points to its system.

MCA Has Slim July Profit

A net profit after taxes of \$1,395 for the month of July was reported by Mid-Continent Airlines, as compared with a net of \$35,507 the same month last year. The reduction was attributed primarily to increased costs of labor, materials and services. July operating revenues of \$519,836 were up 2% over the preceding month and 19% over July, 1946.

Introducing a **NEW TWIN WASP**



To meet the need for an engine in the 1650 horsepower class that is as rugged and dependable as its famous predecessors, Pratt & Whitney Aircraft introduces the new R-2180.

Built into this engine are many of the proved features of the more powerful Wasp Major and Double Wasp engines, plus numerous design improvements contributing to economy of operation and new ease of maintenance.

PRATT & WHITNEY AIRCRAFT
EAST HARTFORD, CONNECTICUT

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

Advertisers In This Issue

Advertiser	Page
Aircraft Components Corporation ..	34
Air Express, Div. Railway Express Agency	39
Frank Ambrose Aviation Co.	35
American Airlines	45
Aviation Activities	29
Bendix Aviation Corporation, Eclipse-Pioneer Division	26
Curtiss-Wright Corporation, Propeller Division	Third Cover
Douglas Aircraft Co.	42
Eighth Air Depot, Inc.	32
Fairchild Engine & Airplane Co. ..	7
Flightex Fabrics, Inc.	45
General Ticket Company	38
B. F. Goodrich Co.	12
Gulf Oil Corporation	3
Hotel Lexington	36
The Glenn L. Martin Company	5
National Airlines, Inc.	18
Pacific Airmotive Corporation	40
Phillips Petroleum Co.	Fourth Cover
Pratt & Whitney Aircraft, Div. of United Aircraft Corp.	44
Scandinavian Airlines System	21
Sperry Gyroscope Company, Inc.	Second Cover
Standard Oil Company of California (Chevron Aviation Gasoline)	10
United Air Lines	24-25
United States Rubber Company	9
The Wayne Pump Company	36
Wilcox Electric Company	31

Product Literature and Booklets

A new product called Pentrate, which makes water wetter and causes it to spread and penetrate more effectively in fire control than ordinary water, has been developed by American-LaFrance-Foamite Corp., Elmira, N. Y. A full description of the characteristics and application of Pentrate is included in a folder now available upon request.

An eight page bulletin on selenium rectifiers for direct current applications has been published by the Selectron Division of Radio Receptor Co., Inc., 251 W. 19th St., New York 11, N. Y.

It includes illustrations of rectifiers covering a range of currents and voltage, and given electrical characteristics, dimensions and weights.

The complete line of hand-powered and electric cranes, hoists and trolleys manufactured by Congo Engineering Works, Mendota, Ill., is covered in a newly-released eight page catalog, Bulletin No. 3000.

Pan American Navigation Service, 12021 Ventura Blvd., North Hollywood, Calif., has available a new 64-page catalog of aeronautical supplies and navigation equipment. All items are illustrated and priced.

September 15, 1947

Classified Advertising

The rates for advertising in this section are as follows: "Help Wanted," "Positions Wanted," "Aircraft Wanted or For Sale," and all other classifications \$1.00 a line, minimum charge \$4.00. Estimate bold face heads 30 letters and spaces per line; light body face 40 per line; box numbers add two lines. Terms, cash with order. Forms close 20 days preceding publication date. Rates for display advertisements upon request. Address all correspondence to Classified Advertising Department, AMERICAN AVIATION PUBLICATIONS, 1317 F Street N. W., Washington 4, D. C.

for SALE By AMERICAN AIRLINES, INC.

43-02 Ditmars Blvd.
ASTORIA, L. I., NEW YORK

- Douglas DC-3 Airplane Parts, Accessories and Ground Equipment
 - Wright G-102 (C9GB) Engine Parts, Accessories and Components
 - P&W R-1830-92 Engine Parts, Accessories and Components
- ALSO**
- Douglas DC-4 Airplane Parts and Accessories
 - P&W R-2000-13 Engine Parts, Accessories and Components (many of which are interchangeable with R-2000-7-9-11 Engines).

These inventories are available for inspection at our warehouses at Astoria, L. I., New York, Tulsa, Oklahoma and Fort Worth, Texas, and offered F.O.B. these points for domestic shipment at very attractive prices.

Prompt attention will be given to all requests for quotations directed to the attention of the Superintendent of Stores at the above address.

A simplified explanation of electronics has been worked up by Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn., in a pocket-sized booklet called "The Electronic Way." It gives a step by step description, using hairpins and window screening for illustration, of how electronic power is created and harnessed for practical application.

POSITIONS WANTED

Airline pilot 7000 hrs. total 3500 hrs. four engine, 4 years trans-ocean flying. Hold ATE and instructors rating. Will accept position as pilot or as combination pilot and administrative capacity. Foreign assignment acceptable. Can give best references. Box No. 583, American Aviation, 1317 F St., N. W., Washington 4, D. C.

Airline Transport Pilot, 4500 hrs. Excellent airline experience. Ex-Naval Aviator. High caliber man. Full information on request. c/o John Tucker, 1803 E. San Luis, Compton, Calif.

Foreign Transports Listed

A tabulation listing the aircraft of the scheduled common carrier airlines of Latin America has been issued by the Foreign Air Transport Division of CAB's Economic Bureau. Pertinent information concerning the various types, which are largely of U. S. manufacture, are reported. The publication is available direct from the Economic Bureau.

NACA Needs Engineers

Fifty-five engineers and physicists are needed to fill openings in electronic instrument development, engineering design and fundamental research at Langley Memorial Aeronautical Laboratory at Langley Field, Va. Requirements are a B.S. degree in aeronautical, electrical or mechanical engineering, or in physics. Openings are to be filled by Sept. 30, and the laboratory will reply to applications within 24 hours of receipt. Applications should be made on government application Form 57 and mailed to NACA, Langley Field, Va.

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Fabric and Tapes for the
Aircraft Industry.

FLIGHTEX FABRIC

Export Representative
AVIQUIPO, Inc.
25 Beaver Street, N. Y.
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Wings of Yesterday

25 Years Ago

San Francisco-Modesto, Calif., Air Express was begun by Walter T. Varney. (Sept. 8, 1922)

Aeromarine flying boats carried 403 passengers on sightseeing flights around New York during the period Sept. 16-24, 1922.

10 Years Ago

(In American Aviation)

General Air Express was absorbed by the Air Express Division of the Railway Express Agency, thus ending the attempt by TWA to maintain its own air express agency. (Sept., 1937)

A twice-a-week schedule between New York and Bermuda was inaugurated by Pan American Airways. (Aug., 1937)

Pennsylvania-Central Airlines broke company traffic records for a four-day period over Labor Day week-end, carrying 1,501 revenue passengers during that period. (Sept., 1937)

Books

THE RIGHT TO FLY. By John C. Cooper. Henry Holt & Co., 257 Fourth Ave., New York. 380 pp., \$5.00.

The unmistakable intent of the Treaty of Versailles 28 years ago was to disarm Germany in the air. The defeated nation was not to possess even a token air force with which to threaten the future peace of the world. The victors, however, misread the nature of air power. They failed to realize the impossibility of differentiating between military and civil aviation, domestic or international. As a result the Treaty was a complete and tragic failure; and a chain of events began which culminated in World War II.

Almost exactly the same problem faces the world again today. Once more, says John C. Cooper in *The Right to Fly*, we are contemplating treaties as ineffectual in the control of air power as was the Treaty of Versailles. This is the major import of Mr. Cooper's first five chapters and the primary message of his book, as confirmed by the foreword.

Curiously, the primary responsibility in 1919 for failure to grasp the indivisibility of air power must be placed on representatives of the United States. It was through the personal intervention and insistence of President Wilson and U. S. Secretary of State Robert Lansing, against the unanimous warning of the experts on the Aeronautical Commission, that the final Treaty undertook to distinguish between military and domestic civil aviation, prohibiting one and not interfering with the other. Furthermore, complete control of its airspace was soon returned to Germany.

"Had all German aviation been prohibited by the Treaty of Versailles," Cooper points out, "as recommended by the Aeronautical Commission 'during such period as may be necessary to make quite certain of the sincerity of the peaceful sentiments' of the ex-enemy powers, World War II might well have been averted.

This does not mean, of course, that ex-enemy states should be deprived of the economic benefits of civil aviation. Far from it. As this reviewer pointed out three years ago in *Civil Aviation and Peace* (p. 40), "it merely means that within Germany all flying which takes place shall be in non-German aircraft flown by non-German pilots and crews." The regulation of such foreign-operated air transport within an ex-enemy state, Cooper suggests might be "under the license of the United Nations as trustee of German and Japanese airspace sovereignty." A somewhat parallel proposal was made by the French in 1919, when they offered to provide air transport service over the territory of the enemy powers during the period of prohibition envisaged by the Aeronautical Commission.

We cannot afford in 1947 to repeat the same mistakes the Paris Peace Conference made in 1919. "Air Power is and always has been indivisible," writes Cooper, "and any other approach to its control can have little hope of success . . . If air disarmament is to be realistic German and Japanese airspace must be controlled by the United Nations and their right to fly taken away permanently or for such period as the United Nations may determine."

Again and again he reiterates this point: "If the future military disarmament of an enemy state is necessary for security purposes, the right of the state to use its airspace must be prohibited or fully controlled. Nothing else will prove satisfactory. This is the lesson of the Versailles failure."

It is very alarming, therefore, to discover that in the draft treaties submitted in 1946 for the disarmament and demilitarization of Germany and Japan our statesmen "indicate failure to appreciate the dangers of ex-enemy air power as complete as that of the Allied chiefs of staff at Versailles . . . While the manufacture, production or importation of aircraft is prohibited, nothing is said as to the use of aircraft, nor is any provision made for the entry of Allied aircraft into Germany . . . the treaty entirely disregards the necessity of controlling the German airspace." The Italian treaty is also deficient in this respect.

Should Have Stopped

Had Mr. Cooper stopped after having established this thesis he would have produced a powerful tract which, despite minor inconsistencies, would be very useful in driving home a lesson of great importance for future world peace. Instead, he has added a number of chapters on other phases of air power on which apparently he has no equally clear recommendations to make; and three chapters which seem curiously out of place, on the geopolitics of air power. As a result the book becomes progressively more confusing, while the effectiveness of the earlier chapters is seriously impaired.

Ironically, it is the very fact of the indivisibility of air power that presents Cooper with his two apparently insoluble dilemmas. "What can be done," he asks (and never answers) "to regulate and reduce the military air establishments of the world without directly and disastrously affecting the civil air establishments?" Although he skirts all round it, he never openly faces the fact that effective control of civil aviation throughout the world by international agreement between sovereign powers is not at present practicable.

His second dilemma relates to air power and world commerce. Here, perhaps because of his long association exclusively with the international field, he makes the egregious mistake of treating international air transport as if it were synonymous with all civil aviation. While recognizing that a nation's air power is the sum of all its domestic and international civil and military aviation resources, he forgets that overseas air transport is only one branch of the smaller part of the civil phase of this total. Clearly, the arbitrary limitation of international services has negligible security value as long as control can not also be established over the other far more important civil and military elements of air power of sovereign states.

This has a direct bearing on the international conference scheduled to meet in Rio next month to draft a multilateral air transport agreement. In exaggerating the rela-

tive importance of international air transport as an element of national air power, Cooper does a serious dis-service. Every weapon is a weapon of opportunity. Even a Piper Cub can have military value, as the last war convincingly demonstrated; but it cannot substitute for a modern air force.

The plain truth is that international air transport is only a minor phase of world civil air power. Restrictive measures toward it represents a fundamentally wrong approach. As long as the dominant elements of military and domestic civil air power remain outside international control, such measures are as impotent in preserving world peace as a Maginot line. Even worse, they retard civil progress, restrict employment and restrain the rapid expansion of world trade on which the economic foundation of world peace rests.

J. PARKER VAN ZANDT.

Booklets

The inadequacies and benefits of air cargo service in its present state of development are compared in a Department of Commerce study entitled "National Air Cargo Survey." The study was prepared by James C. Nelson, chief of the Transportation Division, and his assistant, N. W. Kendall.

The survey had two fundamental aims: (1) to determine how adequately air cargo services are meeting the needs of commerce, and (2) to obtain selected statistics on non-certificated cargo carriers. It is based on interviews which the Department field agents made throughout the country last spring with 620 users of air express or air freight services.

Principal types of shipments in which the firms interviewed found the added speed of air transportation of special benefit were: (1) shipping or receiving repair parts to break bottlenecks in production or services; (2) moving perishables; (3) ordering goods wanted immediately by a customer; (4) receiving "style" goods; (5) sending samples for inspection by potential customers; (6) shipments in which use of air offers promotional advantages; (7) shipment of urgently needed drugs.

Despite rapid expansion since end of the war, the report points out that air cargo today represents a very small percentage of all domestic intercity commodity traffic. Preliminary estimates of the volume of domestic intercity commodity traffic during 1946 indicate a total of more than 907 billion ton miles, of which air carriers—certificated and non-certificated combined—carried approximately .01%.

Commodity air traffic last year is estimated at 123 million ton-miles. Air mail accounted for 33 million, air express 24, air freight by certificated airlines 19 and by non-certificated carriers 47.

Copies of the survey, which has numerous statistical tabulations, are available free from the Office of Domestic Commerce, Department of Commerce, Washington 25, D. C.

Obituary

Paul Niles

Paul Niles, 33, chief traffic executive for Braniff Airways, died Sept. 8 in Dallas. He joined Braniff in August, 1940, as advertising manager and served successively as assistant to the vice president, traffic executive, director of research, sales promotion manager, and chief traffic executive. He is survived by his widow, a son, and a brother.

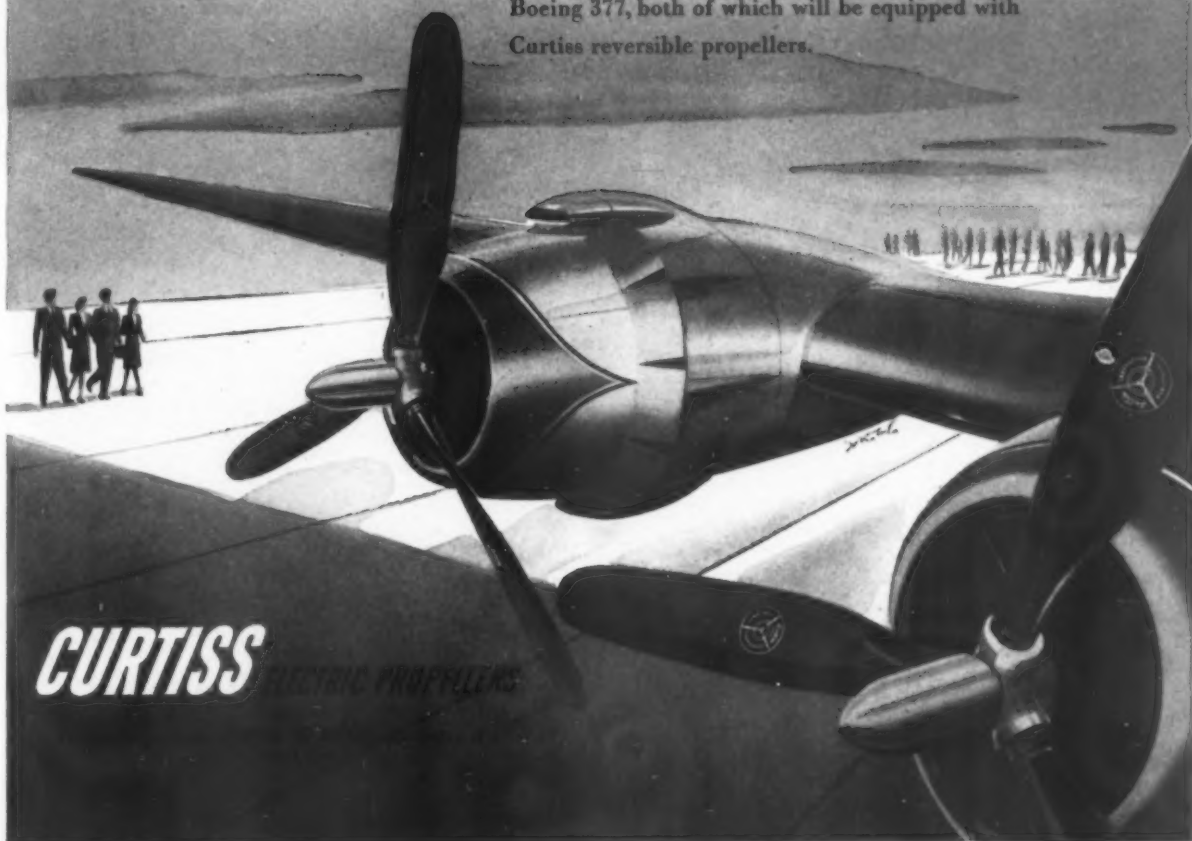
AMERICAN AVIATION

Two great names make propeller history



• Two great names, American Airlines and Curtiss Propellers, join in introducing new comfort and safety to air travel. American's recent inauguration of DC-6 service between New York and Chicago marked the first scheduled airline use of reversible propellers.

• Reverse thrust means smooth, air-cushioned landing, effective landing on wet or icy runways, backing or maneuvering without ground assistance, reduced brake and tire wear... outstanding results of Curtiss propeller pioneering. The first of American's postwar fleet, the DC-6 will be followed by the Convair 240 and the Boeing 377, both of which will be equipped with Curtiss reversible propellers.



CURTISS ELECTRIC PROPELLERS



SAYING "HOWDY!" TO A **BELLANCA** **CRUISAIR**

Yes, sir! Your head and your heart's in the sky! You're making the acquaintance of a Bellanca!

We understand your joy because we're as air-minded as you. The makers of Phillips Aviation Products have developed fuels and lubricants that give real performance and real satisfaction. We know that you want quality . . . and that's how it should be!

Smooth starts, clean engine, uniform fuel performance . . . these are just some of the qualities that Phillips UNleaded 80 octane gasoline gives you. It's a delight to land at any of the Mid-West air fields and "tank-up" with this product!

So, say "howdy!" to one of the orange and black "66" shields, and ask for Phillips 66 high quality fuels and lubricants. The Aviation Department, Phillips Petroleum Company, Bartlesville, Oklahoma.



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